The OIL WEEKLY

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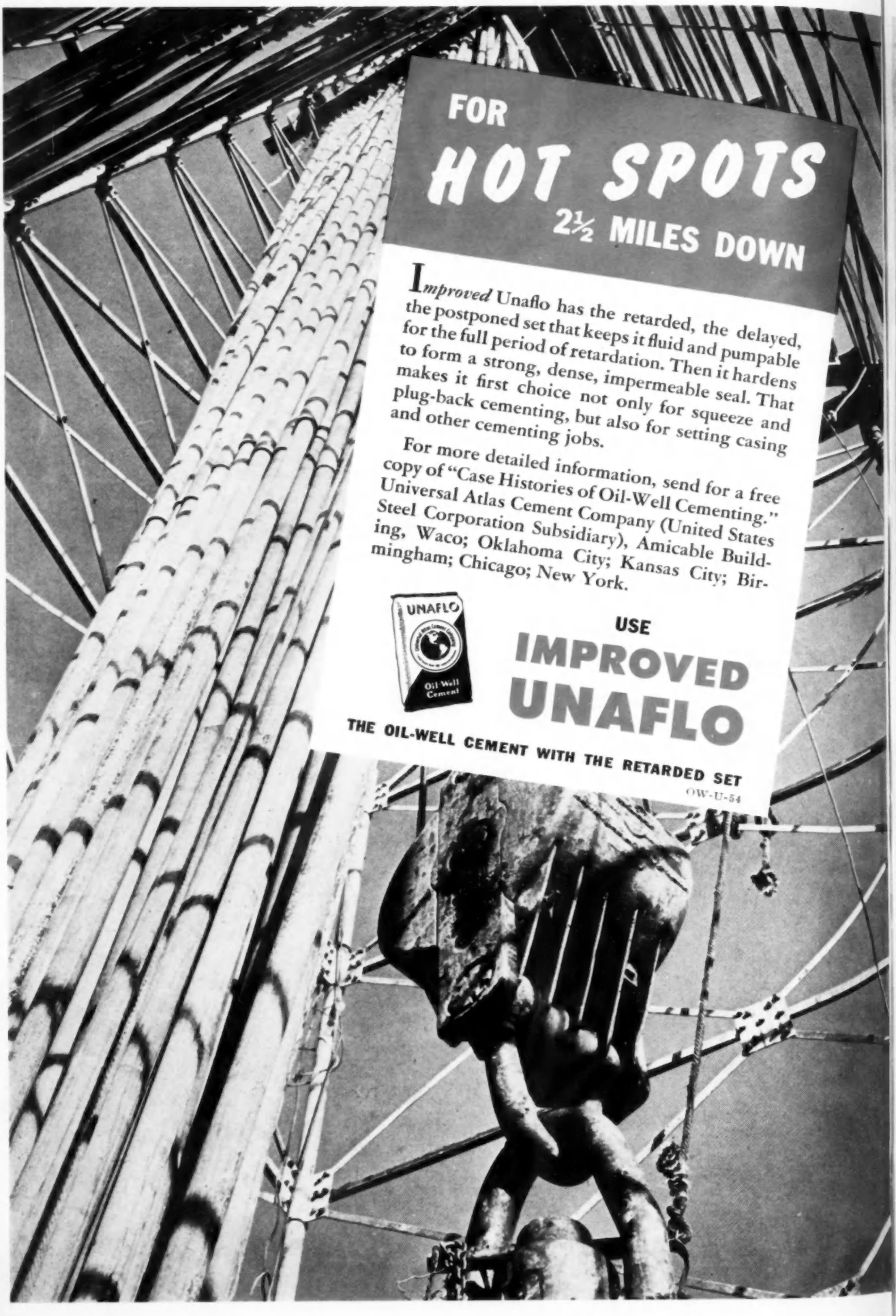
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THE OIL WEEKLY

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. . . with the Editor

ALMOST any question that might be asked regarding 1944 oil drilling, exploratory operations, production, consumption, pipe-line construction and other activities of the industry will be answered in THE OIL WEEKLY's big Annual Yearbook-Forecast Number which will be issued next week.

In addition to this summary of the year just past, pictured incidentally in relation to previous years, the number will contain the annual forecast of trends and activities, a forecast which in the past has been of tremendous help to oil companies and equipment manufacturers.

The statistical section will abound in graphic charts, many of them in color, which will give at a quick glance valuable data on scores of pertinent petroleum subjects.

The influences of a worldwide war have had their effects on the industry and the many changes which have resulted are faithfully recorded. This is the fourth Yearbook-Forecast Number issued since the United States entered the war and among its other features is detailed the "miracles" of production performed by the oil industry which set new all-time highs during the past year.

This special number is regarded by its editors as their most valuable contribution of the year. And here's a forecast, not contained in the issue: As usual, the Yearbook-Forecast Number of THE OIL WEEKLY will not only find its way to the easy-to-reach spot on the oil man's desk, wherever located, but will stay there throughout the year to help him answer the thousand and one questions that arise.

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CENSORSHIP NOTICE—Censorship rules occasionally make it necessary to tear out or otherwise delete parts of publications destined to subscribers outside the United States. If there be such deletions in copies of THE OIL WEEKLY going abroad, they are at the request of the Office of Censorship. Copies sent abroad face unavoidable delay because of time necessarily consumed in passing the publication through the Office of Censorship.—*The Publisher.*

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The Changing Panorama

Additional Crude From East Texas

THE action of the Texas Railroad Commission in granting one more producing day per month to the East Texas field will go far toward balancing crude oil production with current needs and in preventing an acute shortage from developing. It will provide an increase of approximately 16,000 barrels in daily average production, and is so located it will assure continued peak operation of the Big-Inch pipe line, will reduce some of the draft on crude stocks, and also will allow operation of Gulf Coast refineries at their full rating.

To keep the Big-Inch pipe line at capacity, crude stocks were being drawn upon heavily and approximately 5000 barrels daily were being diverted from Gulf Coast refineries to the big pipe line. These conditions will now be corrected. This is gratifying, although it is unfortunate that the commission was so slow in taking this step.

In November, it was suggested that the East Texas field be called upon for extra crude. The proposal was rejected at that time because commission records showed the pressure in the field was declining. The pressure question was debated, some engineers and operators stating that instead of declining the pressure was actually increasing slightly.

The commission had suggested that the crude shortage might be made up from 18 Gulf Coast fields. A check, however, indicated that few of these fields might be counted on for small increases, but that practically all of them were without additional transportation capacity.

All logic pointed to the East Texas field as the proper source of the additional sweet crude needed in the war effort. In the first place, the Longview terminal of the Big-Inch line is in the East Texas field, and oil from other fields could not be transported to Longview because all systems already were over-taxed.

The acute position of Gulf Coast refineries which were being shorted by the pressing need for more crude, is clearly revealed in statistics compiled by PAW District 3 office. In August, 1944, crude stocks for all refineries in the district stood at 23,103,642 barrels. By December 1, 1944, the total had dropped to 22,503,263 barrels, or 600,000 barrels during the four-month period. All this decrease was suffered by stocks at Gulf Coast refineries for inland plants gained 300,085 barrels in stocks during the year between December, 1943, and December, 1944, while stocks for all the district were falling 1,046,000 barrels.

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Another Entering Wedge?

IN COMMENTING on the recent statement by the Federal Power Commission that it has no desire to interfere with state control of production or local distribution of natural gas, the Oil Producer's Agency of California stresses an angle not commonly observed.

"These assurances by Federal Power Commission," the Agency says, "apparently confine its assertion of authority over 'end use' of interstate natural gas to a refusal to allow the gas to be transported out of the state of origin unless the end use is approvable. Nevertheless, from California's point of view, Federal Power Commission evades the realities in this: That if interstate gas is brought into California, it will necessarily be comingled with California natural gas and Federal Power Commission control over end use of the imported gas will inevitably be control over end use of California's gas, with eventual control of *oil* production."

☆

There are many products of petroleum for which commercial uses have not been found—and never may be found. Fortunately, many are useful today and many more will be useful tomorrow.

—Socony-Vacuum News.

Tough Year Ahead, PAW Chiefs Warn

PETROLEUM Administrator Ickes' recent announcement that more difficulties will be encountered in obtaining materials for oil industry operations in 1945 than were met last year doesn't give the picture a rosy tinge. The adminstrator should know whereof he speaks, however, and his warning should be heeded by every operator.

Deputy Administrator Ralph K. Davies stated the situation for the coming year clearly when he said, "I see no choice for any of us, whether we be in government or industry, but to do whatever may be necessary to make certain that we shall be ready, come what may, for whatever demands may be made upon us."

Few will deny that to drill 27,000 wells this year, with material harder to get, and manpower less available, seems well nigh impossible. Undoubtedly the problem calls for the utmost in ingenuity and this means everybody—from the ranks of top management, to the roustabout on the rig—using his head. We usually find some way out when our backs are against the wall. We have to use our brains then or else. If we interpret the message of both Administrator Ickes and Deputy Administrator Davies, correctly, they are saying in so many words that this year's oil industry problems are tough, somewhat unknown, and abundant. One thing we do know, and that is that the demand for oil will be increasing until the fight is won in Germany. In spite of all the shortages the industry may have to face, there must be no shortage of oil on the firing line. The industry is solidly resolved that this will never happen.

Oil Agency Brings In a New Industry

THE Oil Producers Agency of California, made up of independent producers, can justly feel proud of its part in creating an entirely new industry in California. Through efforts of the agency, California has become the center of the drug and plant industry of America.

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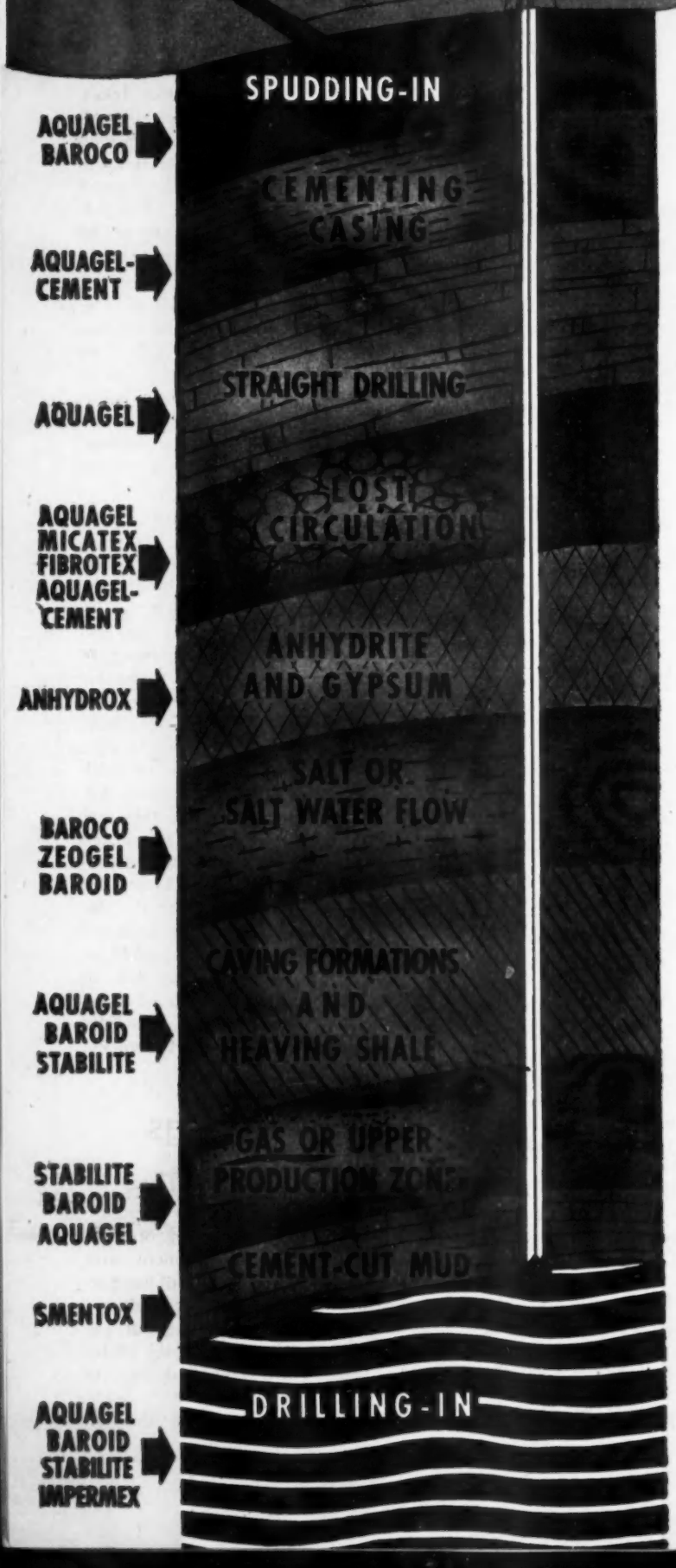

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Producers Agency have supported a statewide program designed to help the independent farmer to make a "little France" out of the valleys and farm plots by growing plants essential in the pharmaceutical and perfume industry. California has all the climates and all the soils of the world, and can produce every drug, condiment and perfume known, except quinine

Directors of the agency authorized the staff to do all in its power to bring these industries to California. And now, day by day, new acreage, mostly in small plots, is being planted to vegetation that in due time will return to the independent farmer a greater profit per man hour and per square rod than he has ever been able to earn before.

Already annual conferences are held in Los Angeles, attended by botanists, pharmaceutical experts, presidents of universities, perfume manufacturers and specialists in all lines involving special plant products and extracts.

It is believed that in due time the new industry will provide an occupation for many thousands of returned soldiers who may make a comfortable income from a town lot or two.

Bright Future for Gas-Turbine Units

DEVELOPMENT of gas-turbine locomotives now shows sufficient merit with respect to operating characteristics as well as favorable initial cost and maintenance figures to warrant serious consideration by forward-looking railroad engineers, according to Paul R. Sidler, of New York, resident engineer for Brown, Boveri & Company.

Speaking on "Gas-Turbine Locomotives for Main-Line Service," before the American Society of Mechanical Engineers, Sidler described operating tests of such power for a period of a year on the Swiss Federal Railways which constituted the basis of development of the locomotive now offered to American railroads.

This type of railroad power is designed primarily for long, high-speed runs with few stops. The gas-turbine locomotive developed for American roads consists of a basic unit of 2500 horsepower which can be used singly or may be coupled in units of 5000 to 7500 horsepower. Coupled to form a 7500 horsepower giant capable of speeds up to 75 miles an hour, the gas-turbine locomotive and tender are 198 feet long and weigh slightly more than 1,000,000 pounds. Fuel consumption at full load is 800 gallons of bunker C fuel oil an hour.

Getting Ideas and Giving Information

A FARSIGHTED step has been taken by the East Texas Chamber of Commerce to acquaint people in its district with the forthcoming legislative program in Texas, and also to consider some problems before the national Congress. The first of a series of six regional tax and legislative conferences was held on January 3, in Sherman, Texas. A second meeting was promoted in Gilmer, January 4, and a third in Rusk, January 5. The series was concluded the next week with conferences at Woodville, Navasota, and Waco.

These conferences are being held on the theory that citizens who are informed and aggressive can influence legislation affecting their interests.

Certainly we do need more citizens who are informed on state and national matters pending before legislatures and Congress, who are alert to such problems, and who are more active in their own legislative interests. Legislators are after all, representatives of the people whether they be in state capitols or in the Congress at Washington.

If the first two weeks in January could be made a conference period by every chamber of commerce in the United States, with meetings like those being conducted by the East Texas chamber, the results on government in this country would be beyond all imagination. Constructive consideration of local, state, and national problems by as many of the people as possible in the nation, comes close to the heart of self government. The East Texas organization has set an example well worth emulating by other similar groups over the country.

Sharing the Scientist Talent

SHARING scientific talent by industry and educational institutions has been suggested and the idea does seem logical. Edwin H. Land, president of the Polaroid Corporation, of Cambridge, Massachusetts, placed the thought before a clinic on industrial research and patents held by the National Association of Manufacturers.

"Instead of industry trying to lure scientists away from the universities with bigger salaries than the institutions can pay, and instead of the universities warning industry to take care less it thus destroy the sources from which it derives its good men, why should not both share the talent to their mutual advantage?" Land asks.

"The sensible approach for industry," he said further, "is to take the attitude that the industrial environment can be as stimulating to the development of pure science as the university has been. We should like to have knowledge of the scientific method permeate our organizations. Let us share the scientists and we will teach them many new aptitudes. Any honest scientist will recognize that there are fads and trends in the pursuit of pure science, and that many competent young men waste many years in activities in which they learn little and contribute little. Industry can provide a much larger field of inquiry for pure science, and stimulate and enrich our social system."

☆

Six billion barrels of our national oil reserves of 20 billion barrels are under stripper wells.

—Small Business Committee hearing testimony.

A Red Gremlin Gets In His Lick

THE harried head designer on THE OIL WEEKLY staff had a particularly acute and peculiar headache last Monday.

Each week the "feature articles" are turned over to him in proof form and it's his job to concoct a head which not only mirrors the highlights of each article, but adds to the general attractiveness of the book.

This gets us down to page 26 in last weeks issue, the page set aside for Dr. Paul Krynine's excellent article on discovering stratigraphic oil traps. "The Future of Oil Finding" was decided upon for the top line and then, apparently with one of the lower type Gremlins taking over, instructions were given that it be printed in color. Color it was and red was chosen. Imagine the Monday morning shock when the head-writer, flipping through the finished book, spotted this one strung very neatly across TWO pages:

"The Future of Oil Finding Gives the Pumper a Better Chance."

The type chosen for the Krynine article not only matched the type used in the Kobe, Incorporated, advertisement on the opposite page, but the color of both headings was red, and the crowning climax of all, the editorial heading read right on into the advertising caption, making pretty good sense, when you come to think of it.

Yes, last Monday was a great day—

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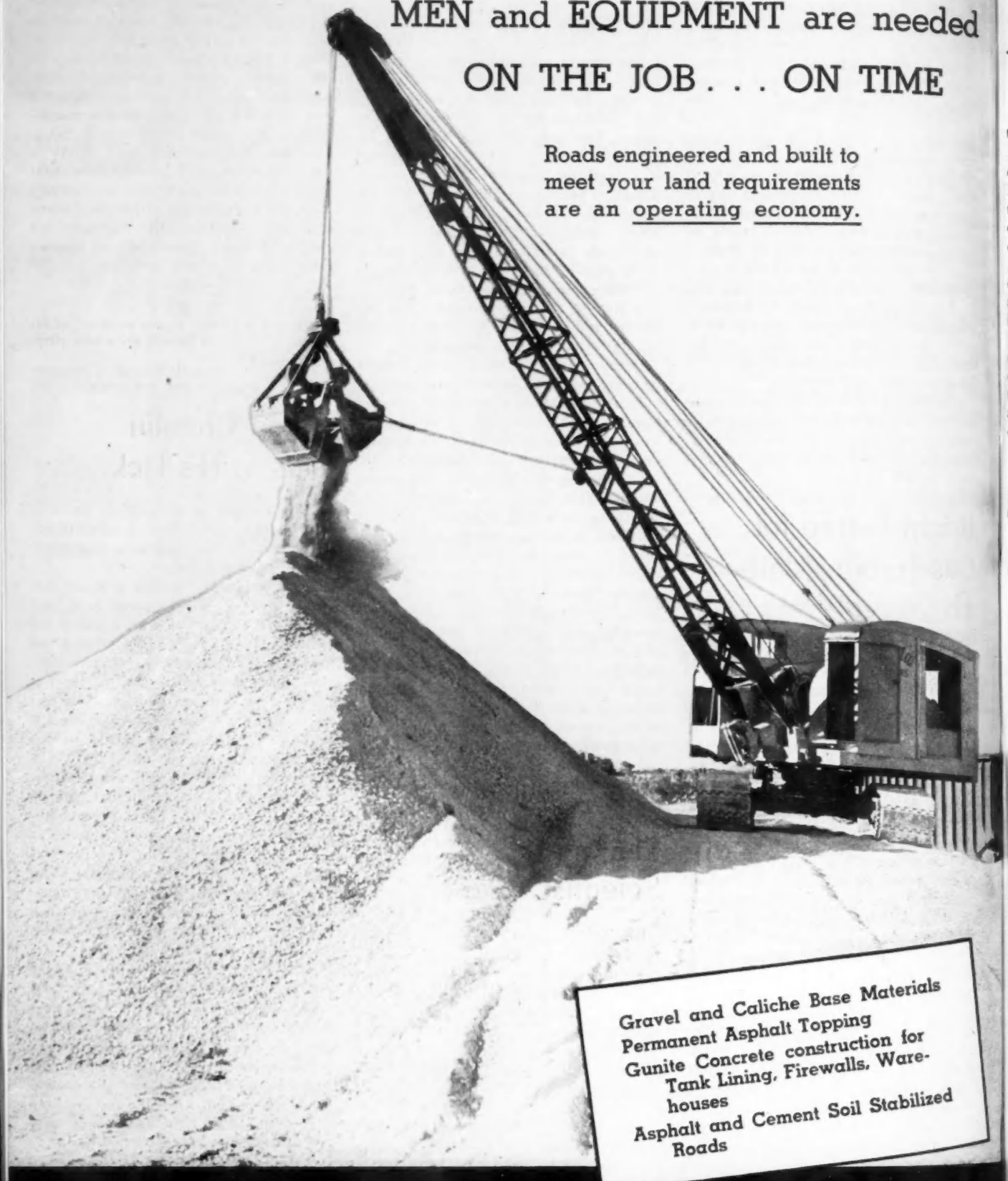

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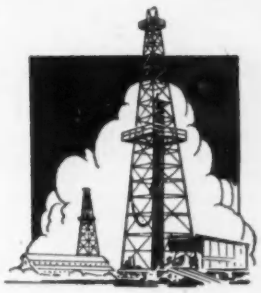


By BERTRAM F. LINZ, Washington Correspondent

THE Anglo-American oil agreement again took the center of the stage last week as members of the PIWC National Oil Policy Committee and State Department oil experts sought to reconcile their differences over the intent and desirability of inclusion of various provisions proposed in the industry's draft.

Little Before PIWC—The meetings were held before and during the regular session of the PIWC which, with the agreement still in the air, found little of importance awaiting its attention.

OPA Oil Cost Survey—While one group of oil men was considering the postwar international petroleum picture, another was engaged in a four-day meeting with officials of the petroleum section of the Office of Price Administration at which the scope and plan of the latter's investigation of crude prices was worked out.

Materials Prospect Serious—The council meeting and the preceding session of its production committee paid special attention to the materials situation, which for the oil industry gives every indication of being far more serious this year than in 1944.

Manpower Shortage Seen—New manpower problems also were seen as in the offing, raised by the drafting of men between the ages of 26 and 30 to raise the 900,000 inductees which the military services are calling for during the first half of this year. How seriously this draft will hit the oil industry, the producing and refining branches of which are held to be critical in a new revision of the War Manpower Commission's list of critical and essential industries, remains to be seen, but the current situation has put an end to the easier labor conditions which occurred last year when, convinced of the early end of the war in Europe, thousands of workers left war plants and peacetime jobs in the oil and other industries.

Manpower and Material Shortages Are Stressed at PIWC Meeting

With no business of any moment before it, the 34th meeting of the PIWC ran for only a few hours January 17. Its National Oil Policy Committee on the same day discussed the Anglo-American oil agreement with Deputy Administrator Davies and State Department Petroleum Adviser Charles B. Rayner.

The agreement itself did not come before the council for action because of the differences in viewpoint between the industry and the State Department which were then in the course of being ironed out. Discussed were the production and materials situation, the report of the Committee on Petroleum Economics, and the possible heavy increase in imports which may be necessary this year. A resolution adopted by PIWC objected to the proposed natural gas investigation by the Federal Power Commission.

The steadily contracting list of problems on which council action is needed, which last year led to the adoption of meetings every six weeks in lieu of the monthly sessions theretofore held, brought a decision to hold future meetings every other month and the council will not return to Washington until March 14, and after that, May 16.

Possible Shortage in East

The report of the committee on petroleum economics was confined to a discussion of the supply and transportation situation in the East, where it foresaw possible serious shortages before the end of the winter. The report said that while pipe lines have continued to perform in excess of estimates, tank car movements are materially below anticipated levels, and barge movements have been curtailed by weather.

"Increased military demands have more than used up the increased amount transported by tankers," the committee said. "Assignment of additional tankers to District 1 service is necessary if even reasonable relationship between supply and demand is to prevail. Inventories of major products within the area cannot continue to withstand the December rate of withdrawal."

Intra-district transportation also is becoming tighter, and it may become critical in some areas if sufficient manpower and tires are not made available to truck operators.

The current trend of gasoline inventories, plus the transportation situation and recent European war events, confirm the committee's previous assertion that no additional civilian gasoline can be made available before V-E day.

1944 Figures

As part of its report, the committee made estimates of 1944 production, refinery runs and product output, with crude production placed at 4,585,000 barrels daily, against 4,118,000 barrels in 1943 and 3,799,000 barrels in 1942.

Crude run to refineries was estimated at 4,536,000 barrels daily, against 3,917,000 barrels in 1943 and 3,655,000 barrels in 1942.

Major items of refinery production on which the committee submitted estimates were: Gasoline, including aviation gasoline, 1,981,000 barrels daily, against 1,623,000 barrels in 1943 and 1,608,000 barrels in 1942; kerosine, 213,000 barrels against 198,000 and 185,000 barrels; gas-oil and distillates, including light fuel oils of home-heating grade and diesel oils, 661,000 barrels against 579,000 and 539,000 barrels, and residual fuel oil, including Navy fuel oils and heavy domestic fuels, 1,257,000 barrels against 1,143,000 and 983,000 barrels.

The production committee adopted a resolution opposing FPC's investigation of the extent and probable life of natural gas reserves.

J. R. McWilliams, PAW director of production, surveyed 1945 prospects, saying that the 1944 disparity between requirements and domestic production will increase, necessitating more imports which may reach as much as 100,000 barrels daily the last half of the year.

"It is anticipated that production will

Alcohol Production Is Stepped Up by War Needs

Revised estimates on Rubber needs due partly to recent developments in the European war theatre, will require that the alcohol butadiene plants produce at maximum capacity throughout 1945. And for the increased aviation gasoline production scheduled it is planned to divert some of the additional stock of butylenes which will thus be made available, the WPB revealed January 18.

As a result, instead of being cut back from the 330,000,000 gallons of alcohol used in the rubber program last year, as contemplated in the original outline for synthetic rubber after the petroleum plants got into capacity operation, new estimates of alcohol requirements call for 349,000,000 gallons this year for rubber production.

continue at a rate slightly in excess of maximum efficient productive capacity throughout 1945," McWilliams said. "Programmed production is sufficiently close to the maximum efficient rates that it can be attained without appreciably endangering the ability of the nation's oil fields to sustain their anticipated efficient productive capacities. On the other hand, it is stressed that productive capacity can be maintained at the levels shown only if materials and manpower are available to complete the 27,000 new wells programmed for 1945."

If no drilling were done this year, there would be a decline of 300,000 barrels daily in production by the end of the year, he said.

"On the basis of the results of recent drilling operations, the 27,000-well program for 1945 will be required as a minimum to provide the new productive capacity needed to offset the normal decline," McWilliams said. "Failure to accomplish any portion of the projected drilling program will result in a corresponding reduction in the anticipated productive capacity."

Presenting charts showing the relationship between requirements and production, and between production, well completions and tubular goods requirements, McWilliams said that the current inventory position on pipe represented a quantitative position equivalent to that existing prior to 1937 when there was no reason for the industry to maintain other than minimum working stocks of materials.

"Currently, inventories are widely distributed among operators, and mills do not maintain any appreciable stocks," he said. "Thus, the inventory is less flexible, and it is doubtful that current working stocks can be drawn upon appreciably to support the projected domestic drilling program for 1945 of 27,000 wells. This program will require substantially full delivery of programmed tubular goods from the mills.

Outlook "Serious"

"The outlook on the supply of tubular goods during at least the first half of 1945 appears quite serious," McWilliams continued. "This is caused by the step-up in production of military needs. Consideration is being given by WPB to all possibilities without deterring the drilling program."

In the current quarter, with a schedule of 6000 wells requiring 250,000 tons of tubular goods, a capacity of 236,000 tons will be available, while in the coming quarter, for 6900 wells requiring 287,000 tons, only 142,000 tons capacity is foreseen, he said. "If the bomb and rocket program cannot be met without diverting oil country tubular mills capacity, action may be required at that time to reduce the projected drilling program for 1945 and possibly to provide additional tubular mill capacity," McWilliams said.

He said the estimate of 1945 deliveries of tubular goods is based on the assumption that deliveries will continue at the same rate as anticipated in the first quarter, of 236,000 tons, and even at this rate there would be a shortage of some 176,000 tons on the basis of requirements for 27,000 wells.

PAW's second quarter drilling program calls for 6900 wells and claims sent to WPB include 327,500 tons of carbon and 57,500 tons of alloy steels, out of which 230,500 tons of carbon and 56,500 tons of alloy are required for oil country tubular goods.

The industry also is facing new uncertainties as to manpower supply, as a result of the stepped up induction program of the military services, and, McWilliams warned, producers are confronted with the possibility of losing a substantial portion of their employes under 30 years of age within the next six months.

Materials Report

The manpower shortage also is affecting the supply of critical items, Claude P. Parsons, PAW director of materials, said.

Parsons saw but few spots in the supply picture brighter than they were last year, and on the whole foresaw more difficulties for the industry in the acquisition of materials than in 1944, and in those few cases where the situation is better the improvement is offset, as in the case of drill pipe, where conditions may be improved by the increase of tool joints while adversely affected by the demands of the military on the mills.

"If military demands for trucks, tanks, airplanes and ships increase," Parsons explained, "it is obvious that there will be an accompanying increase in demand for petroleum products to keep those units in operation. This in turn makes it necessary for petroleum operators to obtain increased materials. If the industry does not receive adequate materials, the military will find themselves without fuel and lubricants for mechanized units.

"So vitally an important item of combat as petroleum simply must not fail for lack of materials needed by petroleum operators to fulfill their tremendous responsibility."

Ickes and Davies Warn of Shortages During 1945 Due to Military Needs

Top PAW officials last week warned that increased difficulties will be encountered this year in obtaining materials for industry operations to meet military requirements for products which are expected to reach an all-time high.

Administrator Ickes and Deputy Administrator Davies stressed the seriousness of the situation, the former foreseeing that demand for materials this year will exceed the supply, with a number of important items becoming more critical.

Davies admitted that supplies will be tight despite the fact that PAW estimates for 1945 operations include only minimum requirements, and any further increases in military demand for war equipment and supplies, including oil products, will immediately be reflected in a greater deficiency of oil industry materials.

"The key to the material shortage," he said, "is, of course, the military situation. Military demands for critical materials are continually increasing. Dislocation of manpower hampers the manufacture of critical items. These factors plus the industry's construction program and its expanding drilling programs for the year point to increasingly tight stocks of material that will be available in 1945 for oil industry operations."

Davies emphasized that to meet the present wartime demands on all battlefronts and at home it will be necessary to continue production at the rate of approximately 4,700,000 barrels daily throughout the year, and to meet this rate it will be necessary to drill 27,000 wells. According to present estimates, the drilling program calls for approximately 2,014,000 tons of carbon and alloy steel, or about 16 percent more than estimated as required for the same purpose in 1944.

In addition, Davies said, the industry will spend about $52,000,000 in each quarter of the year for the domestic construction of refinery units and for natural gasoline and cycling plants, which will require approximately 20 percent more than the 164,000 tons of steel used last year.

Miscellaneous operations, including the construction and maintenance of transportation and marketing facilities, will call for about 174,000 tons of steel, against 170,000 tons last year.

Davies reported that tubular goods, structural steel, steel castings, large steel plates, steel forgings, aluminum sheet, copper, lead and lumber are among the materials used by the industry which are becoming more critical. Already highly critical are heavy duty trucks and tires, all electrical equipment, certain valves, control instruments, pumps, certain boilers, pressure vessels, pressure gauges and some miscellaneous instruments.

Heavy Duty Tires

The heavy duty truck tire shortage is one of the most serious problems with which the industry will have to cope, he said, military demands making ineffective the top civilian priority which the industry enjoys.

Tubular goods, including drill pipe, will be extremely critical because of increasing military demands upon tubular goods facilities and growing domestic and foreign requirements. Demand for rock bits and tool joints continues to exceed supply but increased production is anticipated by the middle of the year. Large steel forgings are critical and the supply situation is getting tighter, with no indication of improvement before midyear.

AIME Annual Convention Set for February Cancelled

The American Institute of Mining and Metallurgical Engineers has announced cancellation of the 162nd general meeting, scheduled in New York, February 19-22. Cancellation was decided upon by the directors to conform with a request of the Office of Defense Transportation that meetings not be held that would put an extra burden on the nation's transportation system.

Chester A. Fulton, president of AIME, said the more than 300 technical papers that were to have been presented at the meeting would be made available as rapidly as possible to the 12,500 members by means of the institute's publications.

Increased East Texas Production Is Ordered

East Texas will be allowed to produce an extra day in February, the Texas Railroad Commission decided last week in fixing a February allowable of 2,303,762 barrels daily, which is 13,762 barrels in excess of the amount sought by PAW. The commission also increased the East Texas allowable from 376,960 barrels daily to 398,410, which smaller allowance was in effect on January 13.

Earlier in the week the commission had yielded to PAW's request for 500,000 more barrels from East Texas in January, the order increasing to 25 the number of producing days for that month.

The commission had satisfied itself that no more oil could be put into the Big Inch from fields other than East Texas, the pipe line situation making unavailable the 34,000 daily additional from Gulf Coast fields. Investigations also had shown that virtually all East Texas storage had been emptied. Chairman Culberson said that the allowable for East Texas had increased 2.5 percent from 1941 to 1944 whereas the state as a whole had risen 48 percent. He assured higher production from East Texas fields as long as there is military need.

During February Texas generally will produce 22 days but East Texas will produce 23 days.

PAW had asked Texas for 2,140,000 barrels of crude during February, 16,000 barrels more than the January request and it specified that the increase come from East Texas. West Texas was set at 453,000 barrels. Distillate and natural gasoline would total 160,013 barrels for the month.

Culberson announced that an industry committee had been added to the program for investigating gas waste in Texas. George Sawtelle of Kirby Petroleum Company, Houston, is chairman. W. M. Murray, Jr., will continue as chairman of the engineering committee.

Texas Commission May Set Standard Yield for Cycling

In resuming the Agua Dulce field gas hearing last week, it appeared that the Texas Railroad Commission likely must decide upon a standard yield to serve as the basis for determining whether pressure maintenance and cycling are to be required.

The Chicago Corporation, Gulf Plains Corporation and Union Producing Company are asking permission to abandon pressure maintenance programs for certain sands in the field and presented evidence showing the gas had become so lean that it was no longer economically efficient to maintain pressures.

Much of the commission's attention was devoted to evidence showing that after a certain stage, injection of gas failed to halt any retrograde condensation that might otherwise take place.

Kansas Hearing Set

Kansas Corporation Commission has set a hearing for January 26 to determine available production and demand for crude, and the revision of production percentages, fixing new quotas for pools and percentages of production for wells within pools for February. Hearing will commence at 10 a.m. at Wichita.

Details Worked Out for Survey Looking Toward Oil Price Increase

Four days of discussion between officials of the petroleum price branch of OPA and the industry committee representing major, independent and stripper-well operators brought a meeting of minds on the form of the questionnaire to be used in the agency's investigation of crude prices, but the scope of the inquiry has not yet been settled.

During the meetings, over which W. Page Keeton, price executive, presided, it was decided that the questionnaire, in general, should be patterned after that used in the price investigation made by the tariff commission, but should be much simpler and should contain also, questions designed to bring out information which OPA officials said could not be considered by them, under the rules covering such inquiries, but to the gathering of which, for such use as might be possible, they had no objection.

They told the committee of which Charles F. Roeser was chairman, that the type of information which could be used as the basis for considering changes in ceiling prices was procedure laid down for such studies. This, in effect, would show current net return to industry as against its net return in the base period.

However, it was emphasized, OPA has no objection to the gathering of other information which the committee felt would be helpful, and in line with that position, the questionnaire will ask for information of finding costs in 1944 and data on the oil reserves developed by such activities, which would permit the computation of the finding cost per barrel.

There were indications that if OPA finds it cannot use such information, it may be carried to the Capitol if an effort is made to get legislation on oil prices, expected if the investigation results in a finding that an increase in ceilings is not warranted.

Committee members believe there is need for looking to the future of the oil industry, it being pointed out that production now is drawing on oil discoveries of some years ago while new discoveries are not sufficient to cover withdrawals.

As against this, officials pointed out that OPA is an emergency agency, and its price ceilings are temporary and will be eliminated shortly after the end of the war, barring new legislation, so that the factor of future conditions could not enter into its present findings.

It has been the consistent contention of the industry that the cost of finding and developing oil reserves should be given consideration in the fixing of prices. On the other hand, OPA has taken the position that this factor cannot be given its full weight, although agreeing that it has a bearing, for one reason, because of the 27½ percent depletion allowance of the internal revenue code. At the same time, they have sought to impress upon operators that if full weight was given finding and developing costs, it might give the treasury a handle for another of the repeated attacks that have been made upon the depletion provision over a number of years.

As the meeting adjourned, there was full agreement as to the content of the questionnaire, but there still remained to be settled the size of the group to which it should be sent to obtain the "sample" on which the study is to be based. OPA has a list of the major companies and large independents and the Independent Petroleum Association of America and National Stripper-Well Association have submitted a list of some 3500 small operators. However, it is believed that the number of operators asked to submit data will be considerably larger.

Under the plan worked out in the conferences, the committee, through a subcommittee, will participate in every step of the investigation from passing on the operators who are to be questioned to discussing the findings before they are made final.

While OPA officials could not agree that the price ceiling should represent replacement cost, it is expected the data to be gathered will show what would be needed on that basis, since the results of the investigation undertaken of the strong suggestion of a congressional committee undoubtedly will be carefully scanned by Congress.

Replacement basis was the subject of lengthy discussion, with operators pointing out that had it not been for conservation in the 30s they would not now have the oil needed for the war and that, accordingly, the oil now being withdrawn should be replaced by new reserves with a view to future needs and

Crude Oil Production in the United States

(Estimates compiled by The OIL WEEKLY. All figures indicate daily averages, in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED Jan. 20	Jan. 13
Alabama	300	250
Arkansas	81,400	81,000
California	891,500	883,000
Colorado	9,350	9,200
Florida	50	50
Illinois	199,500	204,400
Indiana	13,000	12,700
Kansas	276,550	272,650
Kentucky	29,650	29,700
Louisiana	358,300	359,700
North Louisiana	69,050	70,450
South Louisiana	289,250	289,250
Michigan	50,700	49,250
Mississippi	47,600	50,150
Missouri	100	100
Montana	24,310	19,860
Nebraska	1,000	1,000
New Mexico	104,050	104,050
New York	12,950	13,000
Ohio	6,900	6,950
Oklahoma	362,500	360,750
Pennsylvania	34,400	34,350
Tennessee	35	35
Texas	2,120,300	2,120,300
Upper Gulf Coast	552,650	552,650
East Texas Field	370,900	370,900
Rest of Eastern Texas	144,100	144,100
Lower Gulf Coast	243,900	243,900
Southwest Texas	78,400	78,400
South Central Texas	20,050	20,050
West Texas	478,550	478,550
North Texas	143,050	143,050
Panhandle	88,700	88,700
West Virginia	8,100	8,150
Wyoming	97,900	95,000
Total United States	4,730,445	4,715,595

should be priced accordingly. In response, officials pointed out that had the oil discovered in the 30s been disposed of at the time, the industry would have received lower prices than it now gets. Further, it was said, if a price decline comes after the war, as operators predicted, they will have received more for the oil they now are selling than if they held it until that time.

Some Washington observers think the industry now has the best chance for price relief since crude prices were frozen in October, 1940. The probable increase was "guessed" at between 25 and 35 cents a barrel.

Revised Manpower Lists Show Oil Classifications

In a move to program the raising of the 900,000 men who will be needed for the armed forces during the first half of this year, the War Manpower Commission on January 16 revised its year-old list of critical and essential activities to serve as a guide to selective service in the drafting of men in the 26-29 age group.

Only about one third of the occupations originally listed as critical are retained in that category, most of the rest being classed as essential.

Most of the important activities in the oil industry are listed as critical, among them drilling, rig-building, production of petroleum, natural gas and gasoline, field service operations, petroleum refining, and production of liquefied petroleum gas.

The remaining occupations, now classed only as essential, are exploration, and production of tar and pitch, and coke, the production items being primarily in the coal industry.

The new classification is designed primarily to protect keymen in the most important war and war-supporting programs, and it is expected that virtually all men under 30 now deferred in activities not included on the critical list will be subject to early induction.

Under the plan for taking men in the 26-29 age group, the first to be called will be those not employed in any activity on the essential list; second, the more readily replaceable men in the essential but not critical occupations; third, the replaceables in critical programs, and, final, a clean sweep, first of the essential and then of the critical list.

Petroleum Is Exception to Navy's Lower Price Record

Progressively closer price and profit controls by the Navy over the supplies of all war materials have resulted in an increase of more than 25 percent in the purchasing power of its money, it was disclosed last week.

Since entry into the war, the Navy has lowered prices by a total of $9,400,000,000, in addition to more than $1,000,000,000 returned to the government through contract renegotiation or voluntary refund by contractors, it was said.

In the case of petroleum products, however, the department is paying substantially higher prices than in January, 1942. This has become necessary in order to develop new sources of supply to satisfy the extraordinary increase in requirements and increased transportation costs.

Russia Busy Developing Synthetics Despite Big Increase in Oil Reserves

Despite its vast and as yet not fully measured reserves of oil and gas, Soviet Russia is embarking upon no such program of petroleum use as has developed in the United States, but is vigorously exploring the possibilities of synthetic and substitute fuels, it was disclosed January 19 in a report by the Department of Commerce.

Although the war has had something to do with this program, it was declared by Dorothy V. Knibb of the department's industrial projects unit, it was actually in progress before the war, due in part to the fact that the oil-producing areas of Russia are badly "off center" and long distances from the major consuming areas. Instead of transporting the oil from these fields to the industrial areas, the Soviet long-term plan contemplated the establishment of industries in the vicinity of the fields. This situation lead to the development of substitute fuels. Natural gas is being developed, manufactured gas is being produced (sometimes under ground, by setting fire to the coal deposits and trapping the gases at the surface), and synthetic fuels are being made from a number of bases.

One important source of fuel in many localities, the report said, is sapropeles—a slime that accumulates in stagnant waters from the decay of microscopic vegetable and animal organisms—which is rich in fats and albumen, and from which gasoline, kerosine, motor fuel and paraffin are obtained.

Synthetic fuels also are being produced from coal, peat and oil shale, it being claimed that a process has been developed for the use of brown coal of which Russia has large deposits.

Many of the processes employed would be considered uneconomical in other countries, the department pointed out, as for instance, the commercial production of oil from shale or coal, which cannot now compete in consumer markets with natural petroleum.

"But in the Soviet Union there is no question of competition of this sort," it was commented. "The planned economy provides that one thing is to be used in one place and another in another, and as far as possible each area is to be independent of all others. The whole economy is not one integrated whole but rather the sum of its various parts.

"Application of the plan has another aspect that must not be overlooked. By utilizing low grade coal, sapropeles, shale, peat and other secondary resources, the Soviet Union is cutting down sharply on oil consumption for industrial and agricultural purposes. The total potential power reserves are, of course, the same, whether primary resources are used first—as they are in the United States—or last. But by developing both types at the same time, Soviet Russia may be stretching out its oil reserves appreciably and at the same time building up an alternative production far beyond the experimental stage."

Synthetic Rubber Figure

Synthetic rubber production last year amounted to 763,000 long tons, of which 26,000 tons was turned out by private industry and 737,000 tons for Rubber Reserve Company, it was announced January 16 by Secretary of Commerce Jesse Jones. Government production of synthetic rubber to date approximates 1,000,000 tons, Jones said.

Forty-seven chemical, petroleum, rubber and industrial companies are operating plants for account of Rubber Reserve and are capable of producing 1,000,000 long tons a year.

The plants also have produced more than 25,000,000 gallons of ethylbenzene and approximately 4,000,000 gallons of cumene, used in the manufacture of aviation gasoline.

Carter Tells of Future Oil Import Possibilities

Possibilities of heavy postwar imports of oil were raised last week in discussion of the future of the huge tanker fleet now being built by the government, touched off by Rear Admiral Andrew F. Carter, executive officer of the Army-Navy Petroleum Board and chief of the Navy's petroleum section, at a press conference with Southwestern editors.

Caretr told the group that the government will have a large, modern tanker fleet capable of bringing in 500,000 barrels a day from foreign fields, and said that such a tonnage could be a stabilizing influence in the oil industry. He emphasized, however, that disposition of the fleet is not a matter for the Navy but for the War Shipping Administration, which now has it under consideration.

"In approaching the tanker building program," he explained, "we have done so from the angle of necessity alone. The deficit in tankers has been a difficult problem. Undoubtedly, however, we will have substantially the largest surface tanker fleet in the world under the American flag after the war.

"How the government will allocate the ships has not yet been decided. There is some sentiment for letting them be taken over by the oil companies and independent operators; that comes under the general policy of the War Shipping Administration and probably will have to be decided later."

Construction of the proposed pipe line to carry oil from West Texas to the Pacific Coast appears to be out of the picture, Carter telling the editors that it did not appear to be necessary and that "we will need all Texas oil for movement in the other direction."

The WSA has not really developed plans, officials saying disposition of tankers will depend entirely on the number of vessels afloat and world conditions at the end of the war.

A number of tankers likely will be turned over to other countries whose oil-transport facilities have been depleted during the war. The European maritime countries will require many new tankers to haul the oil needed on that continent; development of Middle East resources may call for more tankers, and additional ships will go to the American companies whose fleets were put into military service after Pearl Harbor. How many tankers will remain "surplus" after this division is uncertain.

Senators Look Into Oil While Visiting in Iran

First-hand information on the Middle East oil situation, gathered by a two-man Senate war investigating subcommittee, just returned from an investigation of the disposal of surplus properties in North Africa and the Middle East, may play an important part in any legislative moves this session relating to international oil.

The two senators, Tunnell of Delaware and Burton of Ohio, refused to discuss a report which they are expected to submit to the full committee, but the former disclosed that they visited oil refineries and held hearings in Iran.

Plans for New Detroit Gas Line Within 90 Days

The Securities Exchange Commission has indicated that it would issue a ruling shortly on whether intervenors could cross examine H. D. Munsell, Chicago, vice president of United Light & Power Company on plans for a new natural gas line to be laid from the Hugoton field in Texas, Oklahoma and Kansas to Detroit, Milwaukee and other cities in that area.

Complete plans for the line, to cost $70,000,000 will be filed with the FPC within 90 days, it was explained. The company contended the intervenors, including Panhandle Eastern Pipe Line Company wanted to use the hearing to smoke out confidential information. Panhandle supplies natural gas to Detroit.

Shriver Named Chairman Of Association Tax Group

Frank N. Shriver, Shell Oil Company, Inc., Houston, was elected general chairman of the standing committee on state and local taxation of the Mid-Continent Oil & Gas Association at the annual meeting in Fort Worth January 18-19. He succeeds O. C. Cash, Stanolind Oil & Gas Company, Tulsa. Marshall Edwards, Skelly Oil Company, Tulsa, was chosen vice chairman. Election of officers for the various state committees was omitted from the general meeting. Approximately 100 tax representatives of oil producers and companies were present.

Spacing Order Issued

The Barry oil pool of Rooks County, Kansas, has been granted a 20-acre spacing, following a PAW order authorizing materials required to drill and complete wells on 20-acre tracts. The order states each well must be located within 30 feet of the center of northeast quarter of a quarter-quarter section, or within 30 feet center of the southwest quarter of a quarter-quarter section and each well must be drilled on a drilling unit consisting of one-half of a quarter-quarter section upon which no other drilling or producible well is located. Located about four miles north of Zurich, the pool has eighteen Arbuckle and three Lansing producing wells owned by Continental Oil Company.

Maryland Failure

Ohio Oil Company abandoned its first exploratory well in Maryland. The well struck bedrock at 5568 feet without a single showing of oil. Approximately 275,000 acres of Maryland's eastern shore are under lease by the company.

Revised Language of Anglo-American Oil Pact Now Believed Agreed Upon

Clearing the way for new negotiations with the British, the State Department and the oil industry last week reached agreement on the substance of the revised Anglo-American petroleum pact. Differences were ironed out in a four-day conference between the PIWC National Oil Policy Committee and Charles B. Rayner, petroleum consultant to the department, and other officials, including Deputy Administrator Davies. The new version has yet to be prepared for the approval of the cabinet but this will be done without delay and no difficulty with the committee is anticipated in view of State Department contention that the whole controversy has been over language and not principles.

The conferences emphasized that there were a number of minor matters on which some clarification was sought. In three of the cases, the industry position was apparently accepted, and another will be the subject of discussion with the British when the negotiations are opened.

As demanded by the industry, provisions outlining the authority of the international petroleum commission which is to be established are expected to be re-written so as to deprive it of the responsibility of doing anything more than making studies and preparing reports and suggestions upon which the two governments may base their decisions. The commission will have no authority to make recommendations, as provided in the original draft.

On the point of anti-trust immunity for concerted action taken by the industry at the request of the government under the treaty, a compromise it to be worked out for the protection of the industry, in lieu of the blanket immunity sought in the PIWC draft and in substitution for the later suggestion for clearance of specific programs with the Department of Justice.

An agreement also was reached on the industry proposal for inclusion of a provision asserting the authority of the participating governments to restrict imports of oil. Department officials held this provision to be superfluous, pointing out that no agreement can infringe on the right of a government to control its own domestic policy.

Alaska and Trinidad

The one point which will be involved in the negotiations with the British will be that raised by the industry's definitions, which held Alaskan oil to be in coastwise trade for the United States and oil from Trinidad to be in international trade for the United Kingdom.

It will, of course, be necessary to obtain approval of the British government to the changes made in the authority of the international commission, but the matters of anti-trust prosecution and of imports are purely domestic questions in which it is expected the British negotiators will nave no interest.

A spokesman for the department commented that it could not be said that agreement had been reached on all points since the matter was not put into definite written form, but that the department now knows just what the industry wants and will write a new draft along lines developed at the meetings as acceptable. He emphasized that the department was willing to go along with the industry to give it the assurance it desired that the proposed treaty was not to be used to the detriment of oil operators, and said that when the meetings closed the committee appeared convinced of the government's good faith.

Changes to be made in the provision outlining duties of the international commission will eliminate any thought that it will have any force, and be stressed that there never had been any thought of exerting compulsion on the industry. Similarly, he said, if the industry felt it necessary to have assurance that its participation in carrying out the treaty would be rewarded by anti-trust prosecutions, it was entitled to that assurance.

It was explained that after the new draft of the treaty is written, it will be submitted to the cabinet committee and, after approval by that group and before the British are again approached, will be taken up informally with the Senate foreign relations committee so that, when negotiations are renewed, the department will be able to state that it is confident the treaty will encounter no setbacks in the Senate.

Rubber Experts Consider Studies of Postwar Era

Rubber experts of the United States, the United Kingdom and The Netherlands are meeting again, this time in Washington, for further "exploratory" discussions of the postwar international rubber trade.

The discussions were initiated in London last August, since which time studies of anticipated postwar problems have been continued. The present meetings will consider the material developed by those studies.

The United States is being represented by B. F. Haley, director of the State Department office of economic affairs, supported by an advisory panel consisting of J. W. Bickness of Rubber Development Corporation, James F. Clark, WPB rubber bureau, J. L. Collyer, B. F. Goodrich Company, Harvey S. Firestone, Jr., Firestone Tire and Rubber Company, R. A. Gordon, combined raw materials board, H. Stuart Hotchkiss, Cambridge Rubber Company, H. J. Klossner, Rubber Reserve Company, P. W. Litchfield, Goodyear Tire and Rubber Company, Harry E. Smith, Raybestos-Manhattan, Inc., Herbert N. Smith, United States Rubber Company, Gilbert K. Trimble, Midwest Rubber Reclaiming Company, A. L. Viles, Rubber Manufacturing Association, and R. D. Young, Rubber Trade Association of New York.

Announcing the meetings, the department emphasized that no formal agreement relating to postwar rubber has been entered into or is now contemplated, and that the sole purpose of the rubber study group is to provide a medium through which factual studies may be made and informally discussed.

Three Miles Down With Medium-Duty Equipment

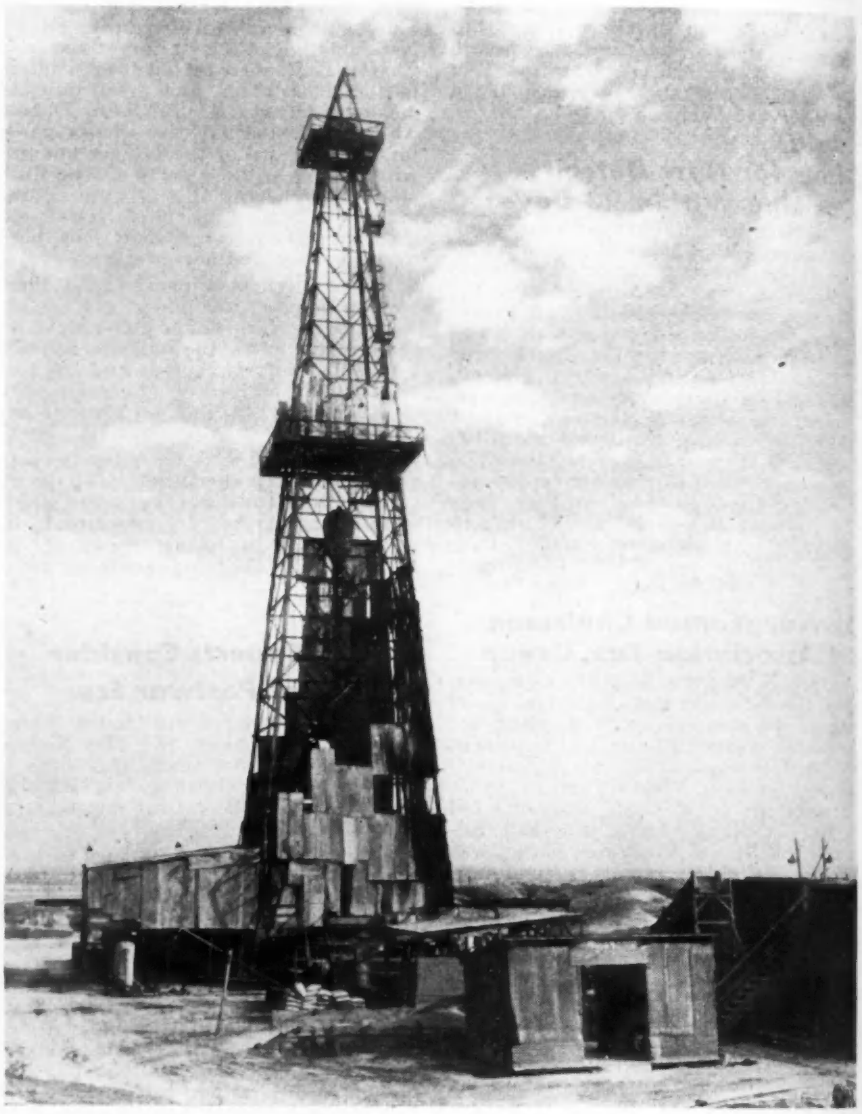
Caution and precaution by experienced drillers enables KCL 20-13's bit to reach a depth of 16,246 feet. Conditions down hole bring about orders to halt operations

By ELTON STERRETT
Engineering Editor

STANDARD Oil Company of California not only takes the world's depth record back to its home state with the feat of having drilled its KCL 20-13 to a total depth of 16,246 feet, but also sets up a mark for record seekers to shoot at by going 967 feet deeper than the previous record holder, Phillips Petroleum Company's Ada Price 1, in Pecos County, Texas.

The new record holder was spudded in on July 31, 1943, as just another routine job, its objective being to determine whether the formations productive in the South Coles Levee field extended to the new location, the nearest producer being approximately three-quarters of a mile away. Thus drilling to 11,000 feet was given no more care or forethought than that expended on other deep wells in the area.

With the hole bottomed at 11,001 feet, and but ½° off vertical, it was decided to continue drilling with dual objectives: either to locate the Vedder sand, productive in several fields on the east side of the San Joaquin valley and believed to underlie the South Coles Levee area; or, in case that event occurred first, to pick up a stray productive sand above the Vedder. On January 10, 1944, drilling was begun on this extension of the well, using 3½-inch drill pipe and a 5⅞-inch rock bit with reamer sub directly above the bit. By October 15 the hole had passed the former world's record, and on November 8 went past the three-mile mark. On December 27, 1944, operations were suspended at 16,246 feet.



The 136-foot derrick on KCL 20-13. The complete enclosure of the engine shed and the liberal mounting of corrugated sheets on three sides of the working floor and again at the thribble-board level testify to the high winds and frequent rain squalls which tended to make working difficult at times. The drilling log shows two shutdowns occasioned by heavy rains, despite the protection. The two high sides of the shielding metal are designed more to block out the direct sun from the driller's eyes while watching the running of pipe than to better floor working conditions.

Drilling Equipment

The equipment used to carry KCL 20-13 to its record depth was that which had originally been moved in for the 11,000-foot test, and was lighter than some of the rigs used by the Standard Company for other relatively deep drilling in nearby areas. The drawworks engine, a 14 x 14 roller-bearing unit, could rightly be classified as deep-well equipment, as could the crown and traveling blocks; but the drawworks, rotary table and other units were not among the heaviest used by the company on some other rigs.

Right lay 1¼-inch 6 x 19 drilling line was used, with a 10-line string-up employed from the outset of the drilling below 11,000 feet. The line, 2750 feet in length, was handled from the truck ramp by an overhead tramrail, on which ran a trolley carrying a 5-ton chain hoist, enabling the line to be placed on roller dollies for quick spooling. The string-up required approximately 1350 feet, the remainder of the line being wound under tension on a 5-foot calf wheel mounted in a special panel of the derrick and driven by a 12 x 12 single-cylinder steam engine, located outside the derrick. This calf wheel also served as dead-line anchor, being pulled up the desired tension and blocked in place by a section of heavy pipe put through a sprocket hole and pulled tightly against the uprights of the supporting frame.

When changing line on the drum, tension would be taken through the auxiliary engine, the sprag removed, and enough line payed off to enable 100 feet or more to be cut from the drawworks

Condensed Drilling Log, KCL 20-13

Period Covered by Log Sheet	Drilling Time, Hours	Operating Time, Hours	Repairs, Hours	Depth, Feet	Notes °—Deviation In Degrees
July 26—August 7	33¼	69¼	34½	2,672	1° at 2,180
August 8–17	157	60½	20¾	6,611	1½° at 5,930
August 18–25	108½	60½	22½	7,983	3° at 7,913
August 26—September 3	137¼	63¾	15	8,602	2½° at 8,315
September 4–10	67½	56¼	44¼	8,862	⅜° at 8,812
September 11–18	33¼	87½	71¼	8,962	⅝° at 8,908
September 19–28	83¾	122¾	33½	9,177	1° at 9,156
September 29—October 3	54½	58½	8	9,267	Elec. Log. 9,213
October 4–11	29¼	152¾	9½	9,390	1° at 9,373
October 12–17	23¼	75¾	45	9,466	
October 18–22	22	97	1	9,525	
October 23–29	21¾	118¼	26	9,574	
October 30—November 5	26½	134½	7	9,686	
November 6–13	0	5	187	9,686	
November 14–23	0	16	224	9,686	
November 24—December 2	45¾	165¾	4½	9,998	Elec. Log. 9,845
December 2–10	41¼	143	6¾	10,225	2° at 10,190
December 11–19	61¾	155¼	4	10,380	Elec. Log. 10,306
December 20–29	65¾	163¼	11	10,519	Elec. Log. 10,504
December 30—January 9	114½	147½	2	10,801	½° at 10,673
January 10–18	69½	146½	0	11,001	½° at 10,896 Elec. Log. 11,000
January 19–28	57½	148	34½	11,158	
January 29—February 8	64	147	53	11,314	
February 9–17	70¼	135	10¾	11,501	
February 18–26	79½	117½	19	11,825	
February 27—March 5	69½	110	13	12,002	Elec. Log. 12,000
March 6–15	69½	139	31½	.....	
March 16–24	66	140¼	9¾	12,382	
March 24–31	49½	107½	9	12,597	
April 1–10	81	149½	13½	12,777	
April 11–21	86¾	169¾	7½	12,951	
April 21–30	45½	155½	15	13,071	
May 1–11	78	156	20	13,251	
May 12–21	72½	182	4½	13,432	
May 22–31	45½	177	17½	13,574	Elec. Log. 13,534
June 1–10	36	188	19	13,728	
June 11–19	60	147½	6½	13,932	
June 20–29	38	192	9	14,114	
June 29—July 7	54	133¼	4¾	14,246	
July 8–17	61	163½	15½	14,406	
July 18–27	59	147	34	14,536	
July 28—August 5	62	110½	43½	14,710	
August 6–15	44	180½	15½	14,810	
August 16–25	23	154½	62½	14,832	
August 26—September 3	24½	183½	12	14,868	
September 4–12	24	166	26	14,910	
September 13–21	25½	184	6½	14,954	
September 22–30	32½	191½	1	15,022	Elec. Log. 14,960
October 1–9	51	165	0	15,151	
October 10–16	49½	117	1½	15,319	
October 17–22	33½	104	6½	15,445	
October 23–30	52½	129	10½	15,651	
October 31—November 7	45	139½	7½	15,825	
November 8–13	10	107	27	15,846	
November 14–15	10½	33	4½	15,869	
November 16–23	51	130	11	15,983	
November 24—December 1	41½	137½	13	16,066	
December 2–8	14¼	124¾	29	16,087	
December 9–10	10	30	8	16,104	
December 11–17	37½	126½	4	16,175	
December 18–25	24½	119	48½	16,238	
December 26–27	3½	38½	6	16,246	Final Depth

drum end. This was sufficient to give new drum wraps, and to carry the section formerly over the dead sheave into a straight section where its service requirements in the string-up would be lightened.

When drilling below 16,000 feet, it was standard practice to cut the line after each fourth round trip. Thus a new line, with 1300 feet of replacement on the calf wheel, could be counted on to give from 10 to 13 changes of line on the drum and over the dead sheave before being exhausted. At the time drilling was stopped, the rig was operating on Line No. 16.

The drawworks, purchased some 8 years before its assignment to KCL 20-13, was factory-equipped with single chains, but was later converted in the Standard shops at Taft to a double-sprocket and chain rig as part of the company's program of modernization and preventive maintenance. Drip oiling lubricates all chain except that forming the drive between engine and main shaft. This particular chain, running in an oil bath on the slack side, was unchanged during the entire 18 months of drilling, and is evidence that many chain failures on rigs are due to lack of or improper lubrication, rather than to overloading.

Due to the use of a separate rotary-table engine, the drawworks was idle during actual drilling time. Advantage of this condition was taken to give all chains a thorough inspection after each round trip. Any defect or damage noted was immediately repaired, and the entire well log shows no case of operations being suspended because of chain or other drive mechanism failure.

When coming out of the hole from depths below three miles, no two of the drillers followed exactly the same procedure in pulling pipe. A typical pattern, noted when the well was bottomed at 16,061 feet, showed that the driller on the brake at the time pulled as follows:

first 24 stands in low-low;
next 66 stands in high-low;
up to last 30 stands in low-high;
last 30 stands in high-high.

Trips out of the hole consumed from 3 hours 20 minutes to 3 hours 40 minutes, with running-in time varying between those figures and up to 4 hours. The lifting plugs required for the slim-hole pipe added nothing to the trip time, it being easily possible to set up and sledge home the pin while the traveling block was completing its cycle.

With around 180 stands of pipe to be racked, it was necessary to check clearances in the rig closely, and to extend the number of stands in a file beyond that usually found most satisfactory. This last increased the exertion required of racker and derrickman in placing each stand. The traveling block, of the double-deck type, afforded maximum clearance for the pipe, although the extra long thribbles cut block travel above the stands to a minimum and required extra care on the part of the driller to avoid over-running and jamming the blocks.

Handling of the pipe was made easier and safer by three departures from usual practice. The stand on which the pipe was racked had a 4-inch pipe rail on the back and side toward the rotary table, the units being bolted through the floor to the substructure beams for greater rigidity. The pipe was racked on a special surface, composed of alternate strands of 1¼-inch drilling line and catline, laid diagonally so as to distribute the weight of any strand across more than one line. The base was built up from discarded drilling line and cordage, with the wire line cut to length and fitted by the welder. The torch was so manipulated as to weld the ends of the cut wire together, and thus to save seizing. The cordage ends were taped, and both lines were nailed to the floor at intervals. The assembly afforded good footing, drained well, and withstood pounding by pin and box ends of the drill pipe.

The pipe racker was aided in his task of carrying the lower end of the pipe out farther from the perpendicular than usual by a toe board which gave him footrest against which he might brace himself while spotting the stand against those already racked. The toe board was hooked into properly spaced holes in the portion of the 4-inch pipe rail facing the rotary table, and carried a short cross piece which could be shifted to leave space for the next stand, but which clamped the longer board more tightly as pressure against it increased.

When running pipe, a tail-in rope fastened to the lower girt of the derrick permitted the pipe racker to take the entire pull of the swinging pipe through his outstretched arms and shoulders, eliminating entirely any need for the man to brace foot against the rotary table or even the stub of pipe extending from the slips, while aligning the pipe for stabbing.

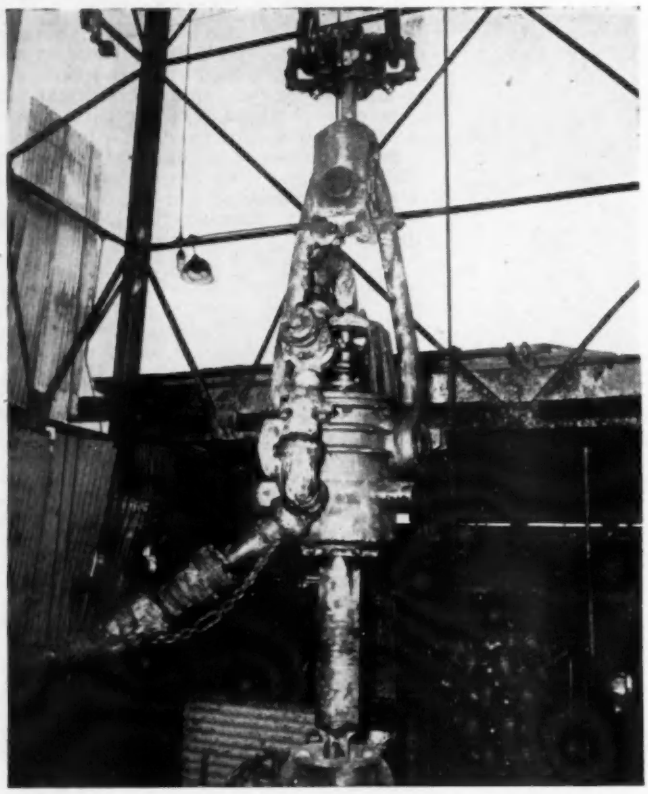
Drilling Log Data

Actual operations on KCL 20-13 covered a period of 516 days, which would mean that a two-column table of 516 lines of type, or nearly four pages, would be required to present the detailed drilling log. To picture the distribution of the elapsed time, however, an abstract of the log is reproduced herewith, taking as units each of the pages of the company's drilling report as finally filed in the home office records. The number of days covered by one of these sheets varies somewhat, but a daily average for each interval covered may be determined by simple division, while the condensed table gives a good idea of the changing conditions with increasing depth.

For purposes of comparison, elapsed

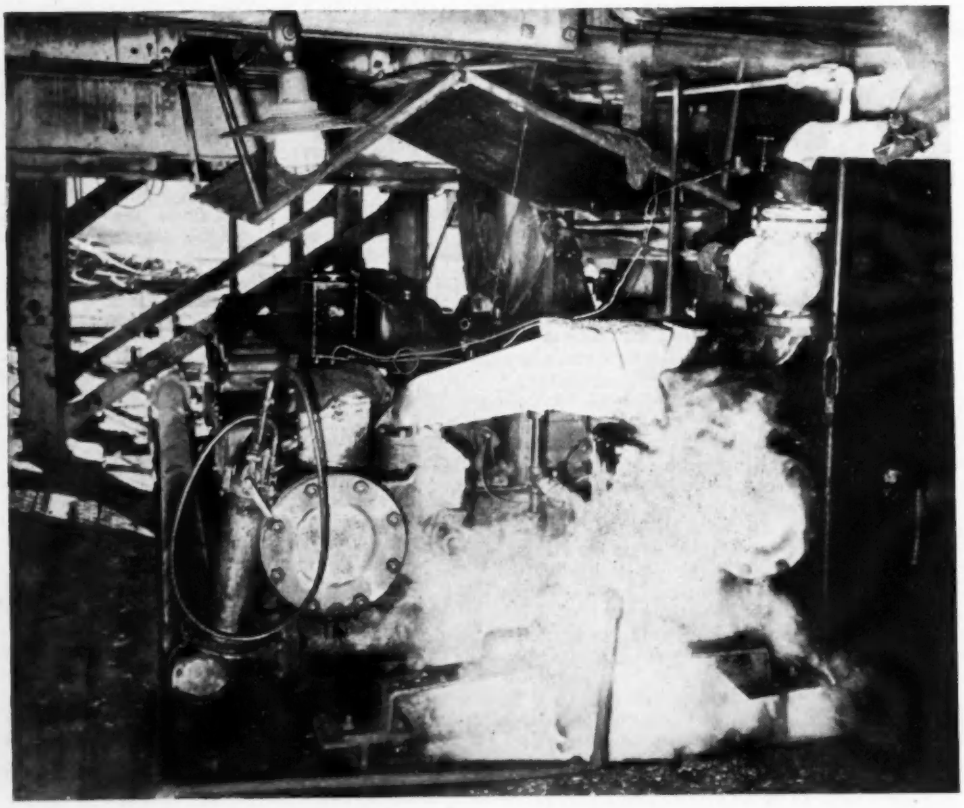
■ CONTINUED ON PAGE 41

See intervening pages for pictorial account of deepest well drilling.

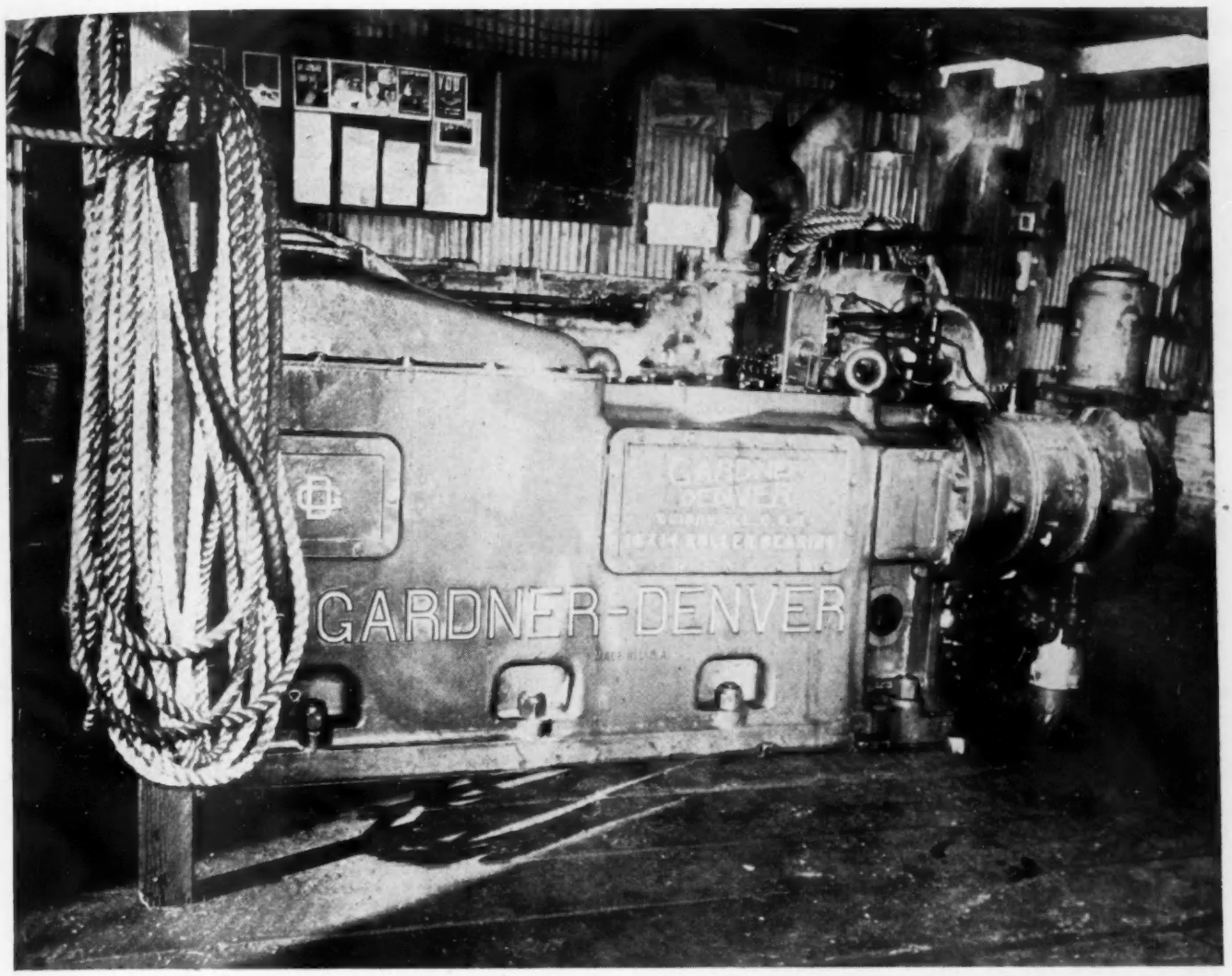


The kelly square nears the end of another grind as it all but contacts the drive bushing. The view shows the swivel with the standard gooseneck, emergency kelly cock and swing joint below which the 2½-inch heavy duty mud hose was connected. The method of drilling by suspending the load from the elevators, instead of carrying a hook below the traveling block is evident. The bail adapter clamped to the swivel bail, is fitted with a shouldered pin which is the same diameter as the drill pipe, and around which the elevator is latched as though it were a stand of pipe. in this method the pair of 108-inch long links serve continuously for supporting the load, whether drilling or handling pipe.

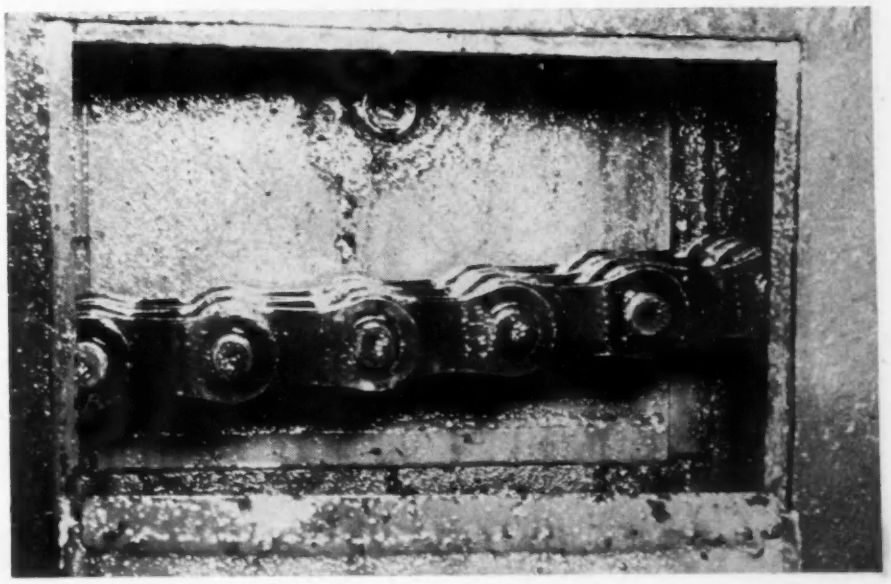
Above—The other end of the long drilling line. At bottom of the 90 feet of drill collar was carried a 3-point reamer in its standard sub, and directly below it, the rock bit. The long taper of the master bushing shows with one of the holes used for transferring power to the drive bushing which, resting across the opening in the table, is turned by pins engaging the drive holes, and does not interfere with nor foul the slip-bearing surface. The holes used for the drive bushing pins also served for the dogs in the bottom of the slip shield used on the table to speed up slip handling.



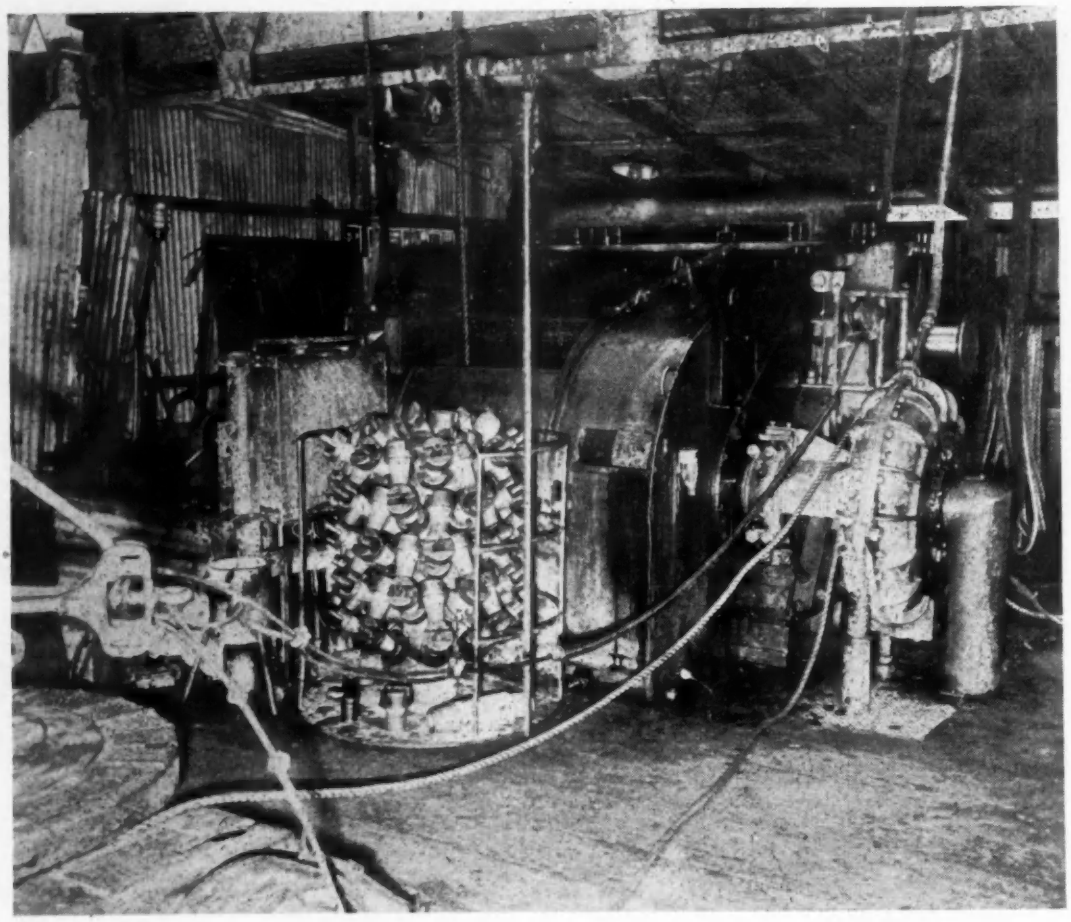
A 12 x 12 submarine drilling engine, mounted alongside the substructure support for the drawworks engine, powered the table through an enclosed chain drive, the lower end of the chain running in an oil bath. This unit required floor space only for the cover housing the upper sprocket, and eliminated the need of running the drawworks engine and any drawworks shafts while rotating.



One of the few really heavy-duty pieces of equipment on the rig, this 14 x 14 roller-bearing drilling engine, with steam reverse kicker, insured ample power for starting the three-mile string off bottom. Although relieved of table drive by the drilling engine, this unit saw practically continuous operation for nearly 8 hours on a stretch when coming out of the hole and running the pipe back with a new bit. The engine was equipped with both throttle valve and quick-acting emergency cut-off valve.



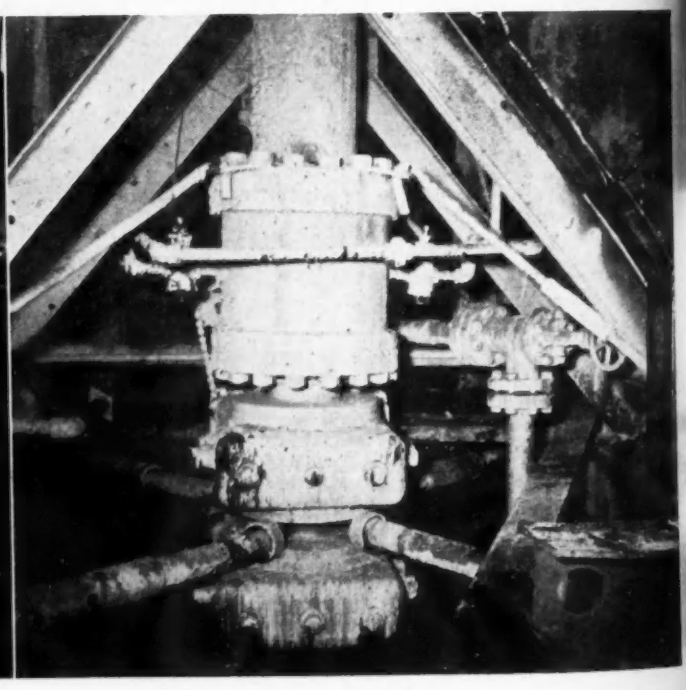
One of the veterans on the job. This double chain, on the main drive between drawworks and engine, was operating when the rig was moved in, and was still driving its load when drilling was stopped 18 months later. Running in oil on the slack side, this chain demonstrates the durability of modern drilling equipment, when adequately lubricated and properly handled. Despite its reputation for durability this chain, in common with all others on the drawworks, came in for a link-by-link inspection after each round trip.



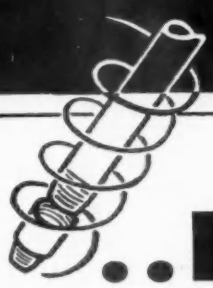
The drawworks which handled the pipe for drilling the entire 16,246 feet of hole. Equipped with dual hydromatic brakes, even the longest string was easily snubbed into place without shock, while the hoisting job was as smooth an operation. The only major replacement on the drawworks, not new when the well was spudded, was the drum. In front of the drawworks is the rack on which the 140 lifting plugs were stored while drilling. The drawworks was equipped with a roller-type wire-line turn-back on the driller's side, while a pair of derrick guides snubbed line whip and made for even spooling.

Centralizing mounting of all equipment in front of the driller's stand reduced the fatigue of drilling or running pipe. Flanking the weight indicator dial are various pressure gauges for mud and steam and an rpm counter for the table. Mounted on a post between brake handle and weight indicator is the control for the submarine drilling engine, while the valve just in front of the indicator panel controls the water to the brakes.

Two gate-type blowout preventers were installed on KCL 20-13. One gate was equipped with rams to shut off around the 3½-inch drill pipe while the other was provided with blind rams to afford complete closure of the bore in case no pipe was in the hole. Above the two ram-equipped preventers, both of which were arranged for manual control, was set a bag-type packer to insure pack-off in case the kelly or other object were in the hole.



MATCHED EFFICIENCY.



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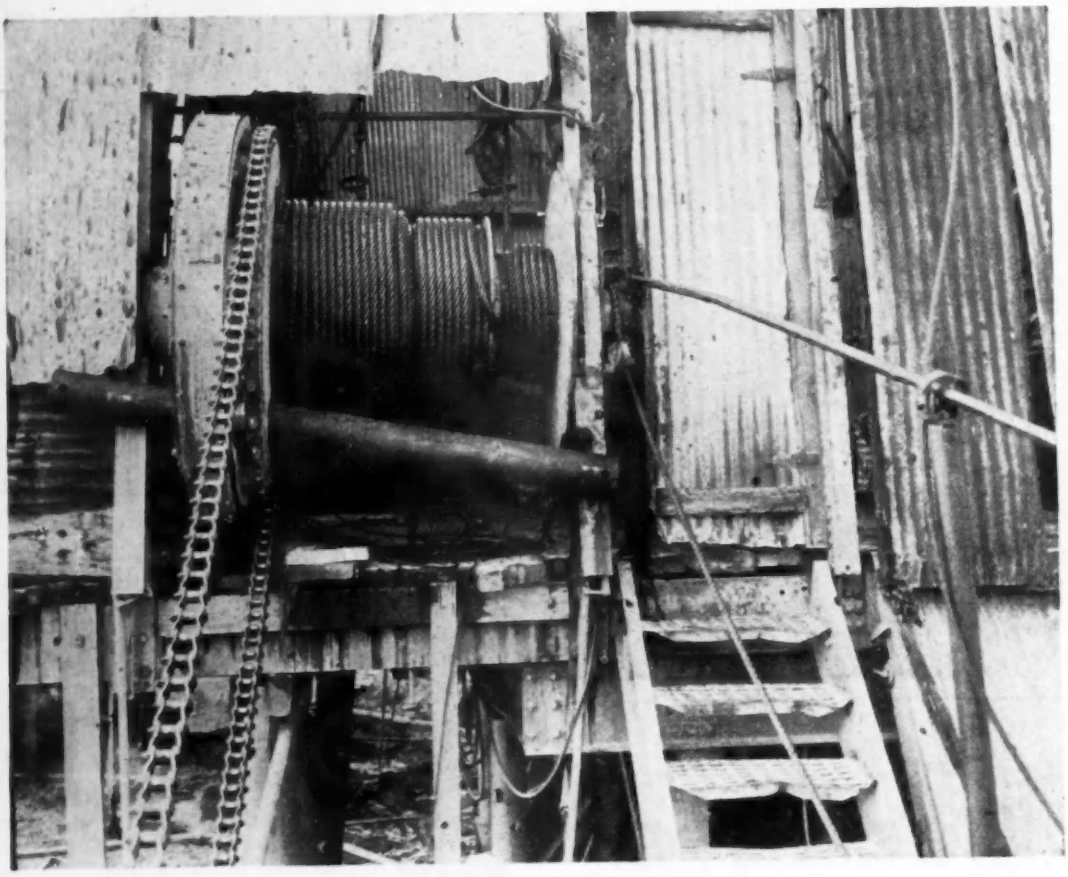
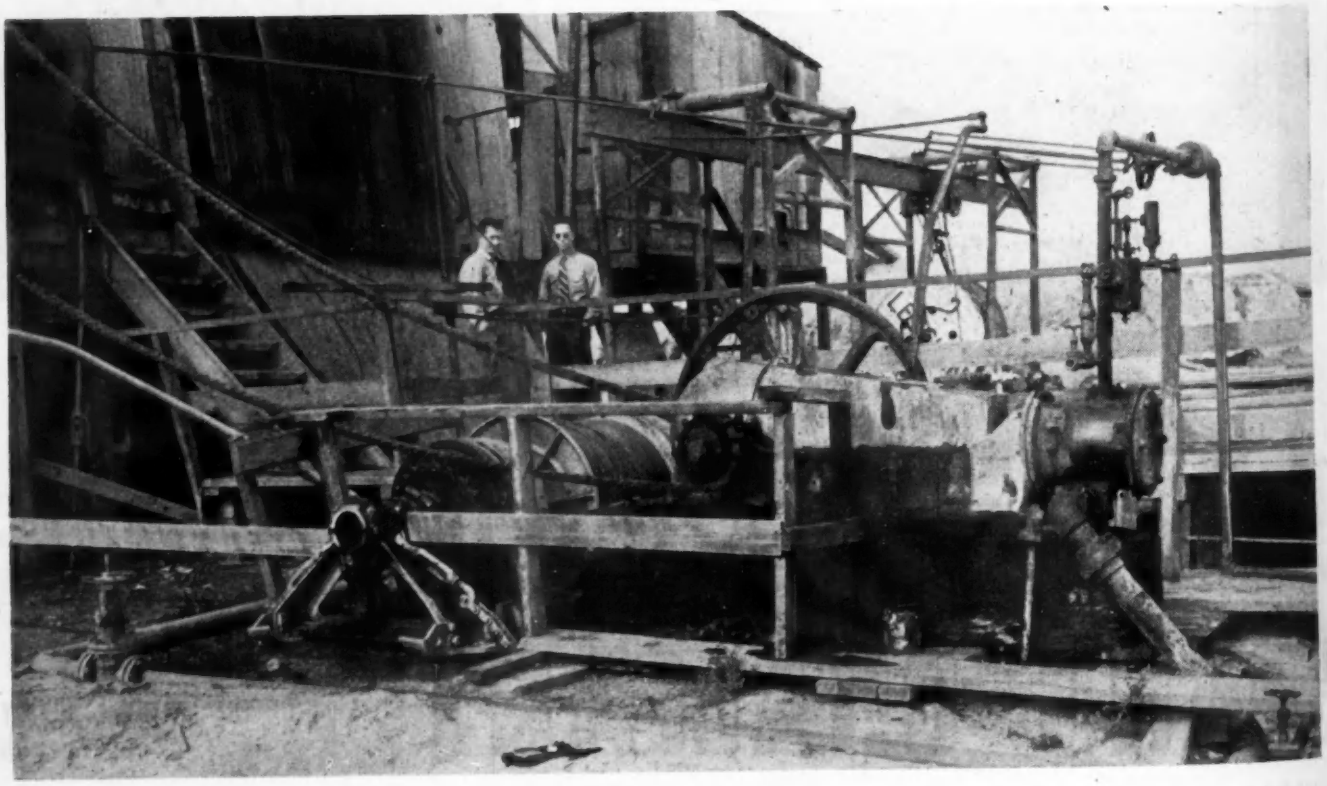


Drilling lines were 2750 feet long, 1¼ inch diameter, 6 x 19 right lay. Of this length, 1350 feet went into string-up (10-line) and the turns on the drawworks drum. The remaining length of new line was wound onto this 5-foot calf wheel, mounted between special uprights built into the derrick structure. Power for this spooling was obtained through the chain at the left, tension being held on the line with the drive until the anchoring piece of heavy pipe could be slipped through a hole in the sprocket and blocked against the derrick channels. At the right of the view is shown the extension throttle rod to the engine used to drive the reel when spooling line.

The long chain from this engine extends to the calf wheel which served the dual purpose of dead-line anchor and reserve line storage. The same engine, with the calf-wheel chain replaced by a short section to the sand-line reel, served to power this auxiliary. The sand line was used for handling all wire-line coring equipment and for running the single-shot survey instruments. In the background of this view may be seen the channel used as overhead conveyor rail, and on which was run a trolley equipped with a 5-ton chain hoist. This equipment served to transfer reels of new line from the truck bay to a position where the line could be spooled off for stringing up and storage on the calf wheel.



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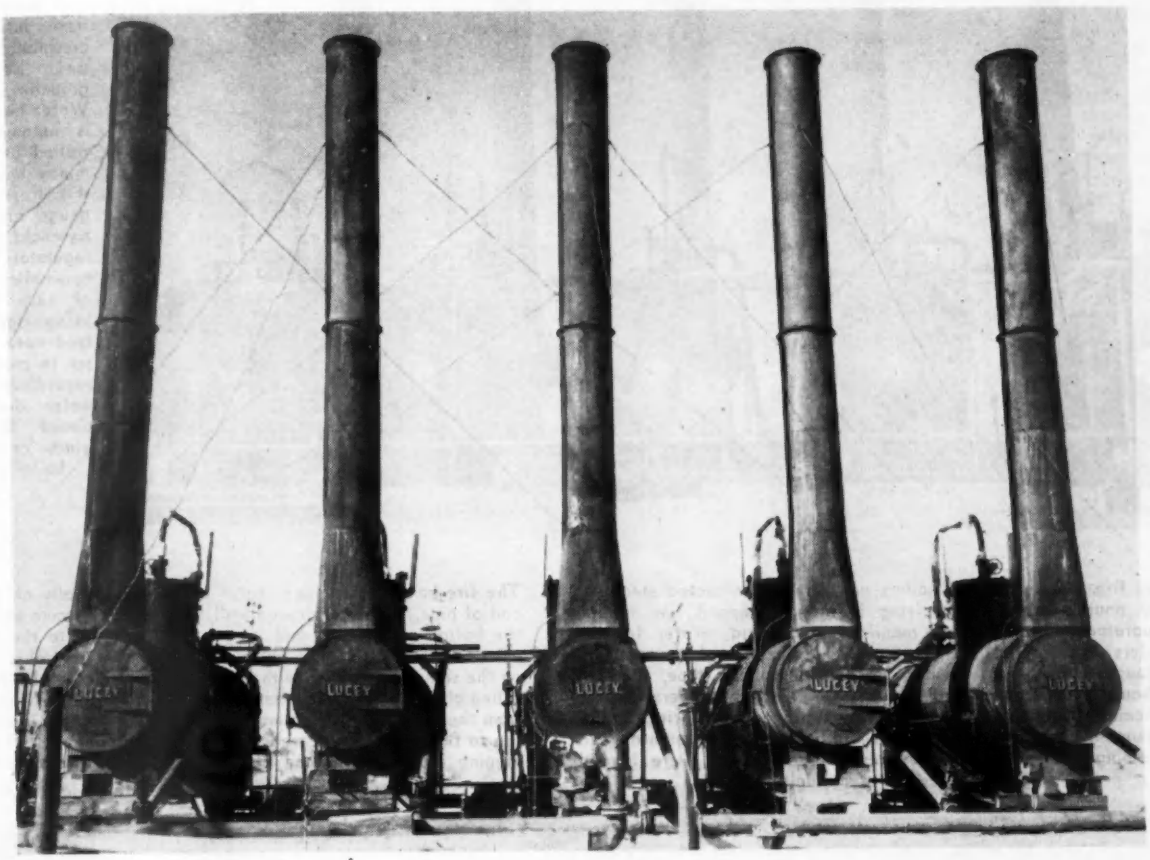

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Note: These boilers were equipped with Lucey Steel Jacketed Boiler Insulation, which prolongs boiler life, increases boiler efficiency.

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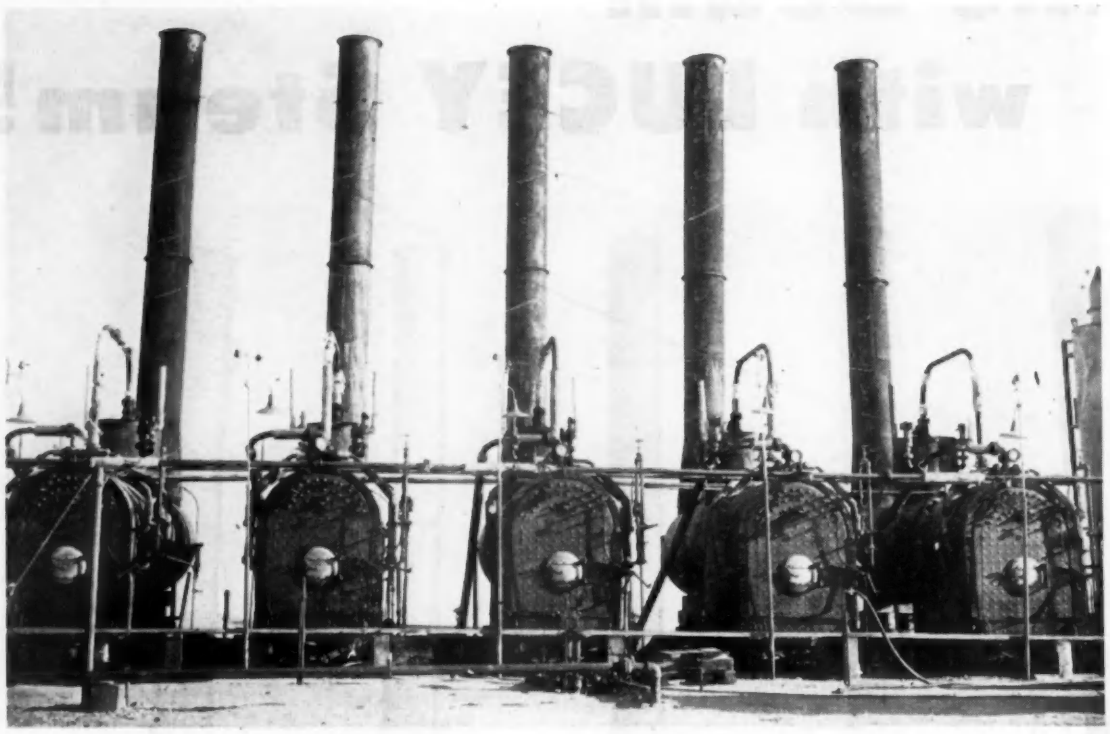
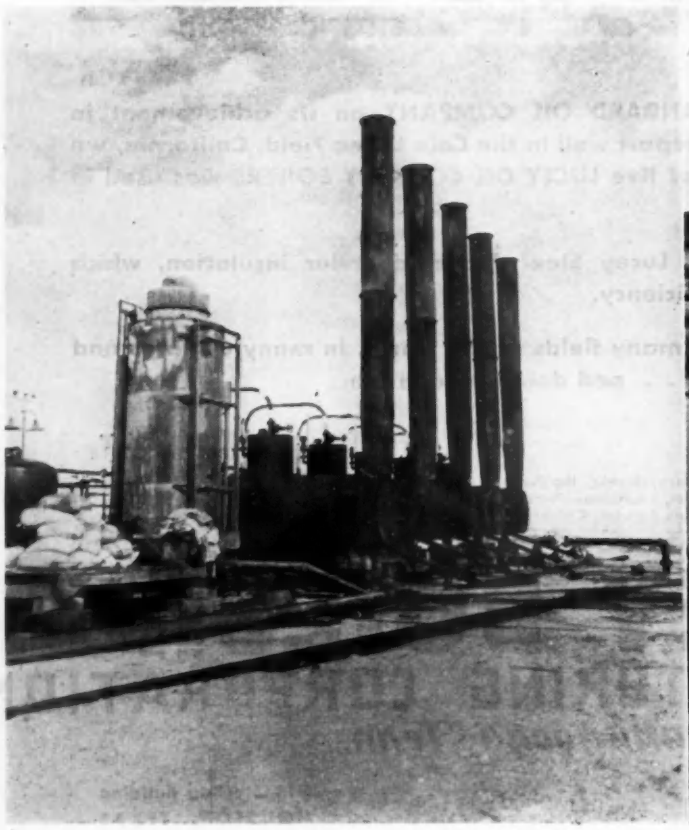
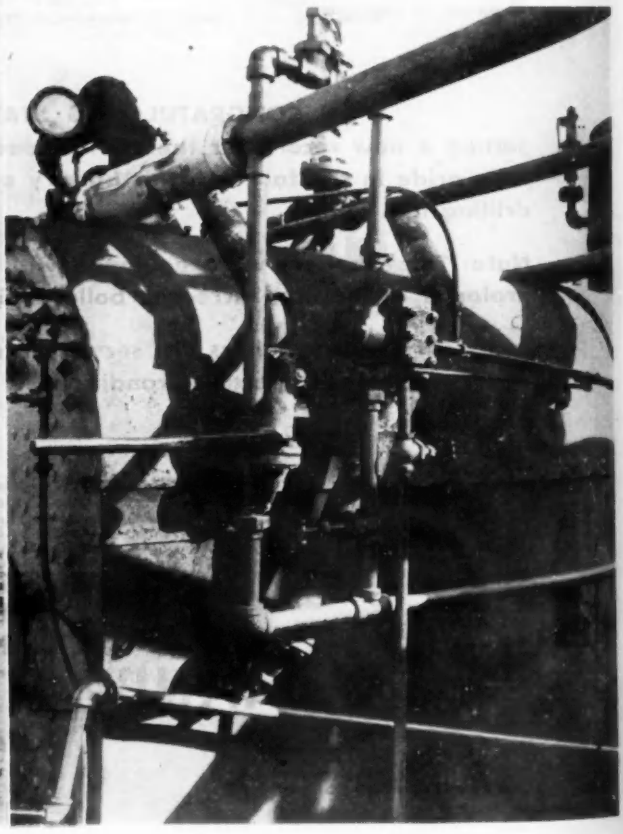


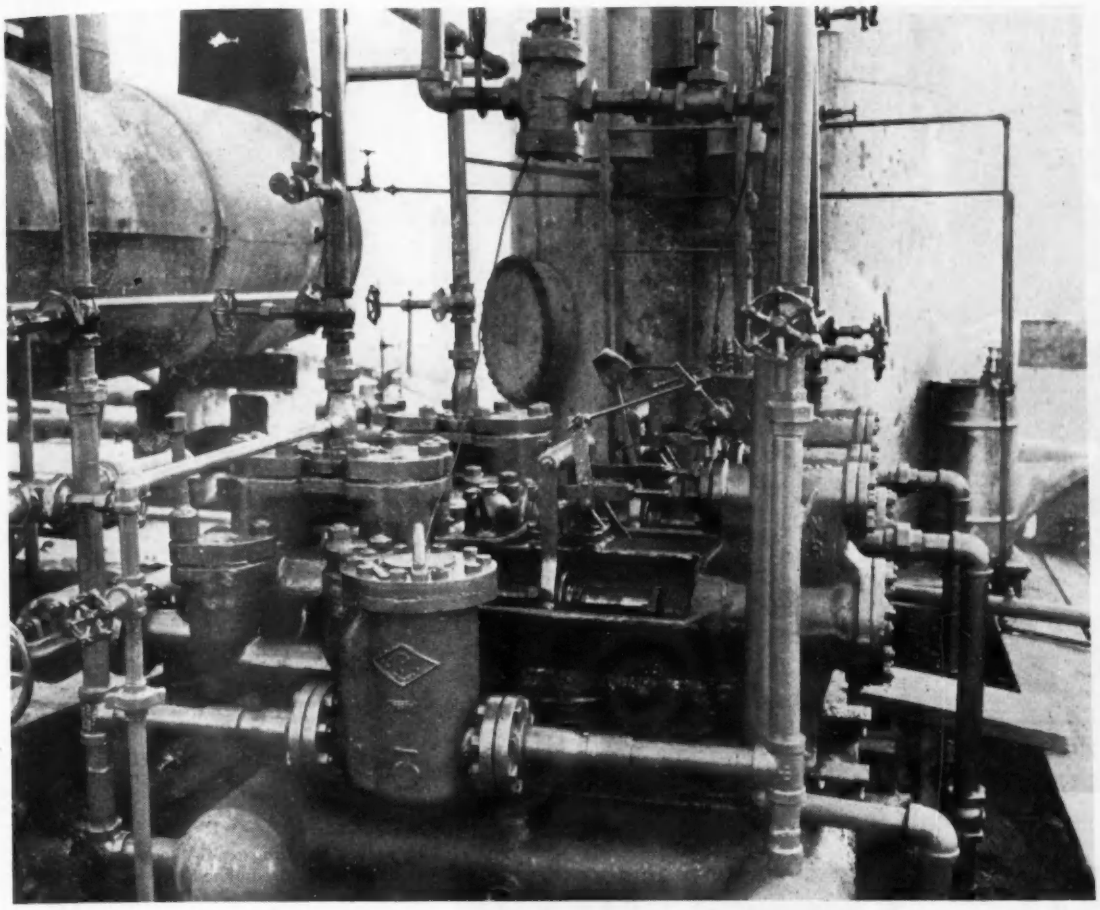
The gas-fired boilers have integral burner assemblies, the entire unit being above ground without pits. Water into the boilers is automatically controlled at a predetermined level, check on this being through gauge and the usual try-cocks. The water regulators show as pipe assemblies to the right of each boiler, each being tied in to the feed-water main, and set to maintain levels, regardless of varying water demand occasioned by prevailing winds or location of boiler in battery.

The five 100-horsepower boilers generated superheated steam at 250 pounds pressure, supplying it through lagged line to the separator and distribution manifold at the rig. Water for the boilers was treated first to remove hardness, and then passed through a feed-water heater of the atmospheric type, utilizing exhaust steam from drilling and drawworks engines. Operation was automatic throughout, the various regulating devices being set for maximum steam draft, and functioning at part load to maintain full steaming without waste of water or fuel. Boilers were lagged throughout, as was steam delivery line.

The fire-box type of superheater consists essentially of a double coil of pipe, one on each side wall, with the wet steam entering at the bottom of the coil and progressing upwardly to the dry pipe yoke above the shell. The automatic water-level control is mounted on the side of the boiler, with bypass line and block valve to permit filling of the boiler or emergency hand control. The unit takes water from the overhead distribution main and feeds into the usual lateral run to the input fitting, well forward in the boiler shell. The boiler lagging shows the method of joining sections with threadcutting screws and small bolts.



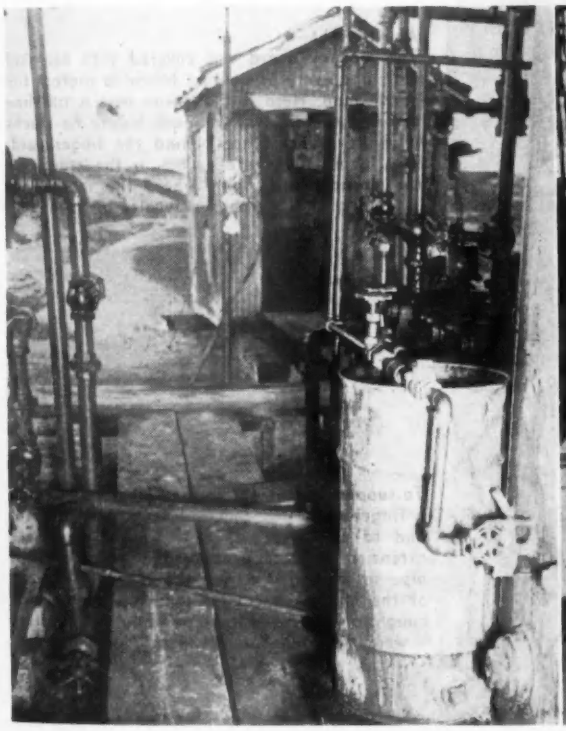


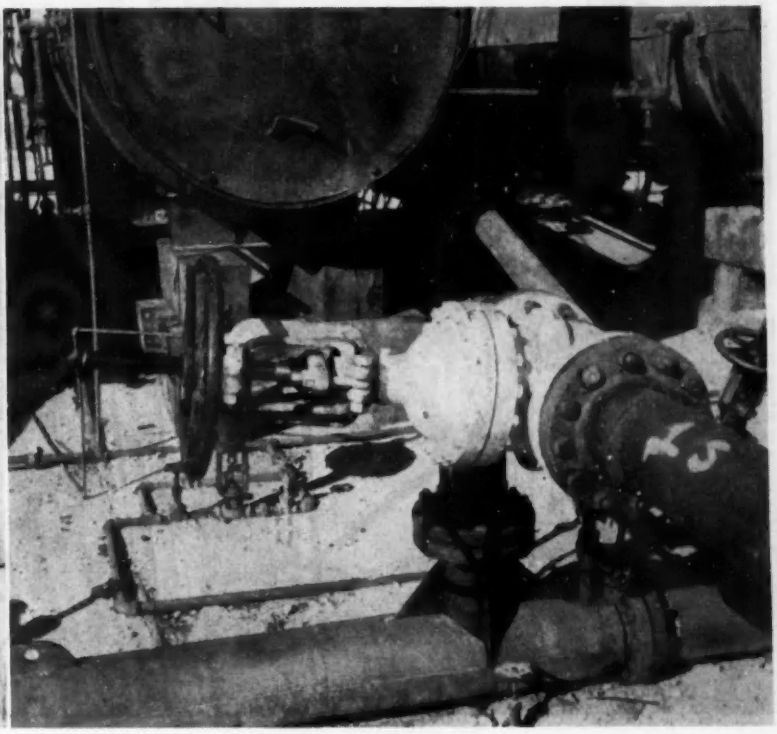


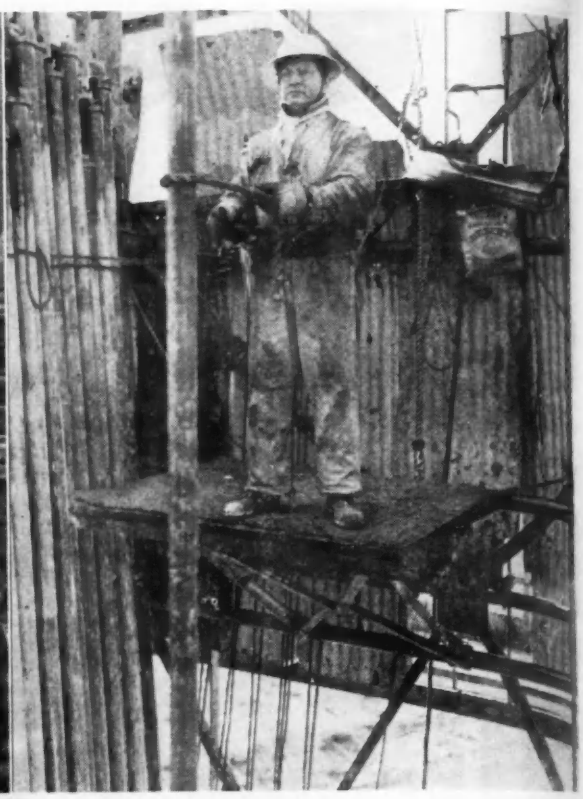
Two 7 x 4½ x 10 feed water pumps handle the supply for the 5 boilers, being mounted on a unitized skid set on the same base as the atmospheric-type feed-water heater. The suction is drawn through a sleeve-type strainer, while discharge is controlled through a regulating system which controls the output of the pump. Positive suction head is provided by the adjacent feed-water heater.

A 30-gallon sump, formed from a small drum, is supported on the side of the feed-water heater shell. Into this as a measure may be run a specified amount of water, to which quebracho and other chemicals may be added, stirring being accomplished by a steam jet run into the container, through which the temperature of the mixture is raised to approximately that of the heater.

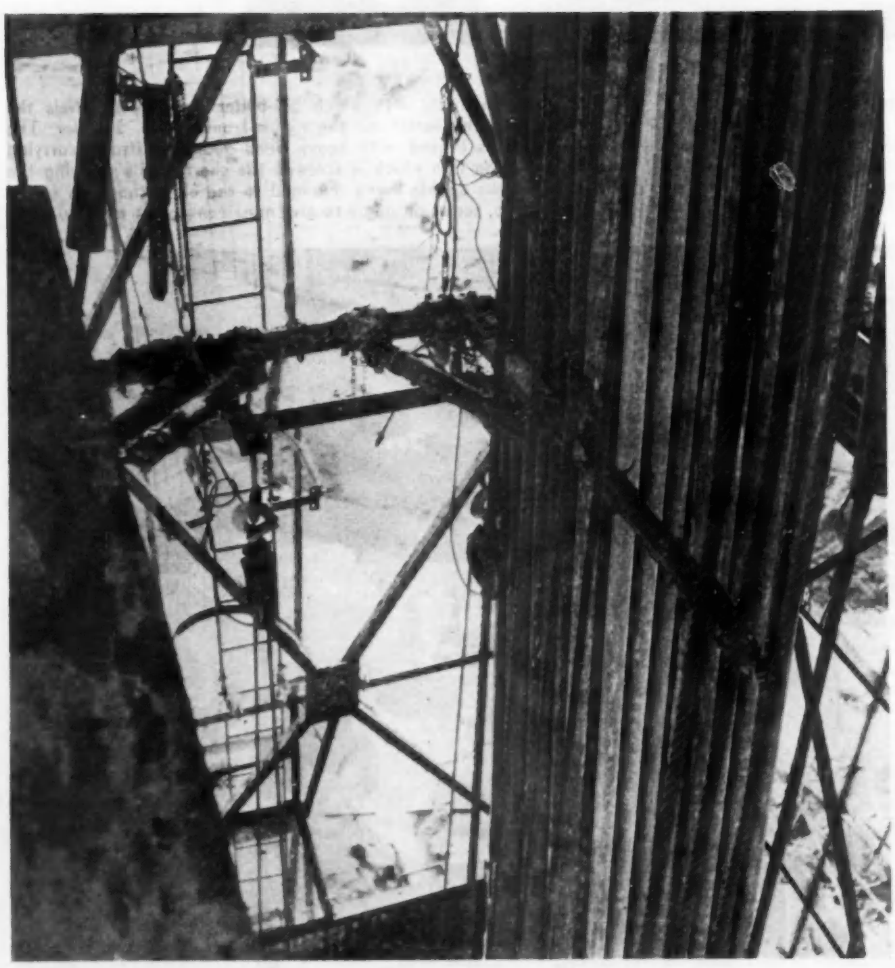
The steam manifold into which all boiler lines tie parallels the battery, with the outlet for the rig in front of No. 3 boiler. The riser nipple is braced with heavy webs against shifting, carrying a flange union into which is screwed the short nipple carrying the first ell of the double swing. Flanged to the ell is the main steam control valve, set at an angle to give most convenient manipulation.







Above, left—
To reduce the drag on the long string of 3½-inch drill pipe, streamlined pipe was used for all but some 40-odd stands. This type of pipe required the use of lifting plugs to afford a surface which the elevators might contact. These special plugs, slotted to take the driving bar, were spun in by hand, and then sledged tight to insure full bearing. But one plug failure was reported in the entire history of the well. Allen Snider has placed the driving bar, while D. E. Behymer swings the sledge.



Above, right—
The monkey board was covered with non-skid mat, and every precaution taken to protect the derrickman. Here F. B. Wilson uses a tail line to bring a stand within reach before he stacks it in its proper place behind the fingerboard. The lifting plugs are visible in the stands at the derrickman's right, where the method of tying in the stands may also be seen.

To support the weight of the 180 stands of pipe a fingerboard was required to be well braced, and to have more than the usual spread or extension to accommodate the many rows of pipe set behind it during the 3½-hour run out of the hole. A special finger was used which caught and retained the pipe while the elevators were disengaged and the tail line placed.

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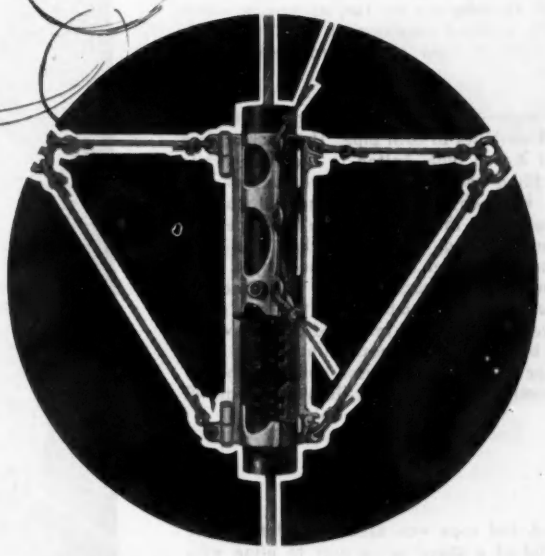
For tall derricks, 2 guides are recommended, one just above the drum and the other just below the crown. Available in 2, 4 and 6-section units, for various types of application. Initial cost is moderate. Maintenance cost is low, as the replaceable refills are the only wearing parts.

See Composite Catalog



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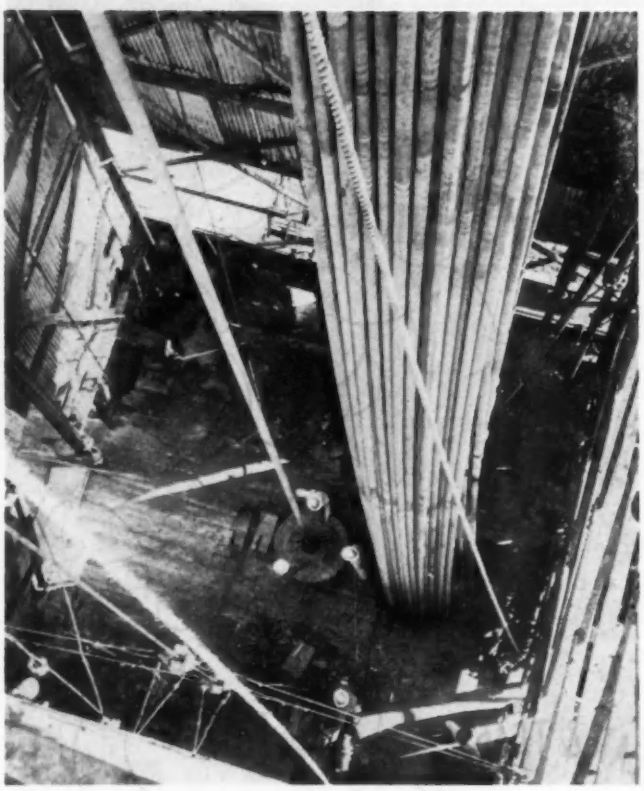
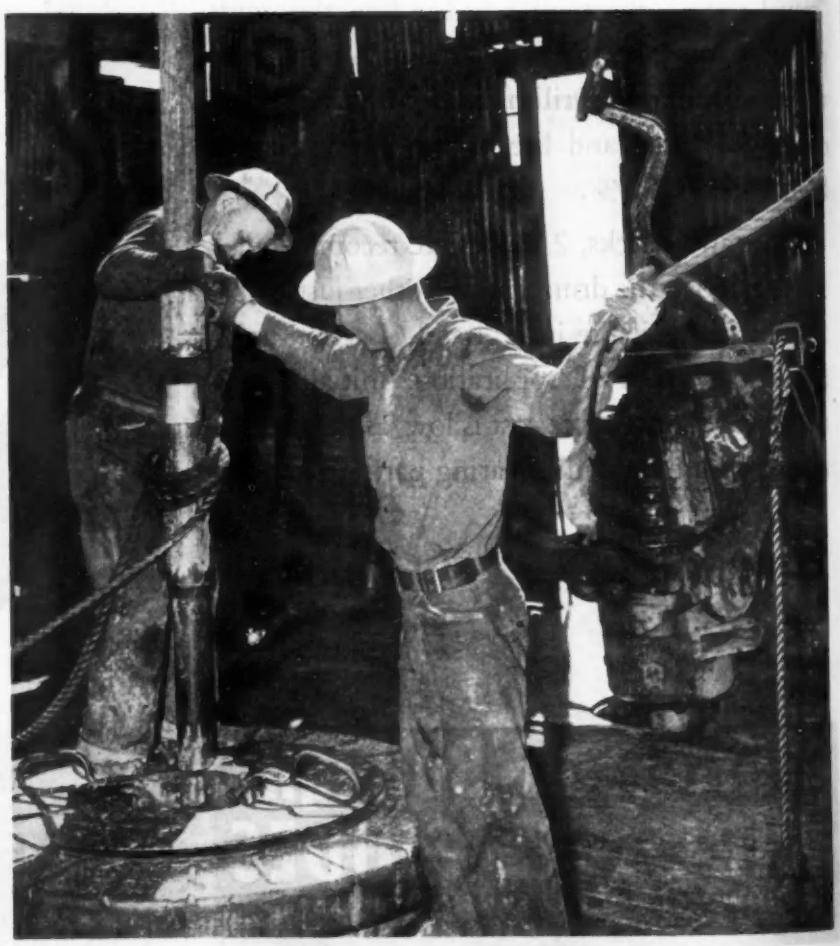


Above, left—A string of pipe more than three miles in length would become invisible to the eye long before the vision could reach the farther end, and even when stacked in thribbles in the derrick, the camera could do little more than get the lower two thirds of the stands and show the extent of the standing which the pipe covered. The drill collar is being pulled from the hole to complete the run, as may be noted from the stripped condition of the lifting plug rack in front of the drawworks.

Above, right—Beginning the long grind of racking 180 thribbles of drill pipe. The backing is a joint of 4-inch pipe, bolted to the floor, while the padding consists of alternate runs of discarded 1¼-inch drilling line and old catline, the wire taking the weight, while the rope provided safe footing. The pipe racker is using a toe-board, the outer end being held by a hook in a socket in the backing pipe, while the adjustable short crossmember grips the long piece and gives the racker at foot hold against which be can brace for better positioning of the pipe. Drill pipe protectors were used until the change to streamlined or external flush pipe—at 40 joints down the hole.



Right—A tail rope was used when letting the lower end of a stand swing over to align with the hole, so that the rotary helper took the pull through his arms and across the shoulders, instead of being forced to brace himself against the rotary table or pipe stub to check the swing of the pipe. The view shows the steel plate used on the table to afford quick handling of the slips without requiring lifting. To engage the slips, it was necessary only to give a quick push to the center handle, sliding the unit across the plate to drop into the bushing.

16,246 FT.

Another DEPTH RECORD FOR LINK-BELT MUD SCREENS

STANDARD Oil Company of California's K.C.L. 20-13 in the South Cole's Levee field of Kern County, Cal., hung up a new world record for depth drilled, when it passed 15,278 feet, depth of Phillips Petroleum Company's Ada Price No. 1 wildcat near Ft. Stockton, Texas. K.C.L. 20-13 had reached over 16,000 feet early in December, and was drilling ahead.

This is another record for Link-Belt Mud Screens, too, for two Link-Belt NRM-145 Screens had the job of reconditioning the over 3-mile column of drilling fluid.

It is significant that Link-Belt Mud Screens, with a single exception, have had the job of reconditioning the mud of every depth record breaking project in the last three years. It is a fine tribute to the fact Link-Belt pioneered mud screens in the oil country and has continuously kept far ahead with improvements in this field. It is proof again of Link-Belt leadership in reconditioning rotary mud.

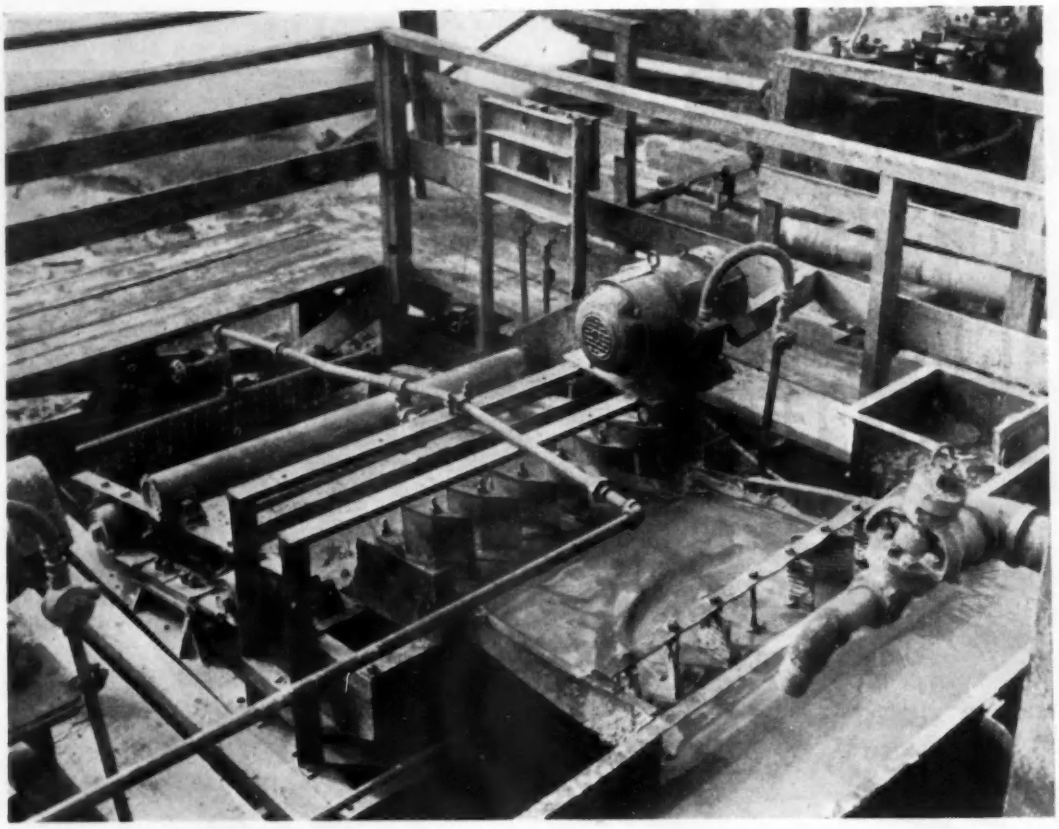
Send for Folder 1872-A.

LINK-BELT COMPANY

Philadelphia 40, Houston 2, Dallas 1, Los Angeles 33, New York 7, Toronto 8

1778

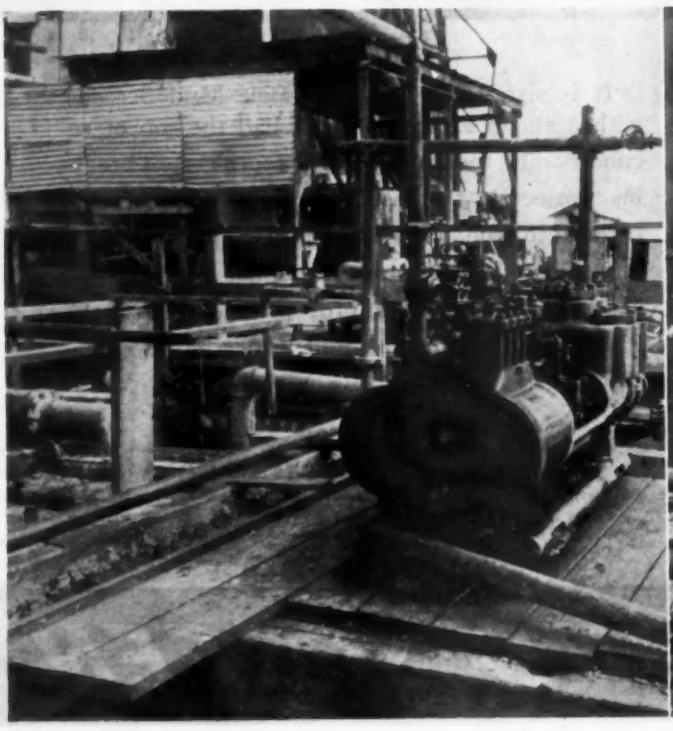
LINK-BELT MUD SCREEN

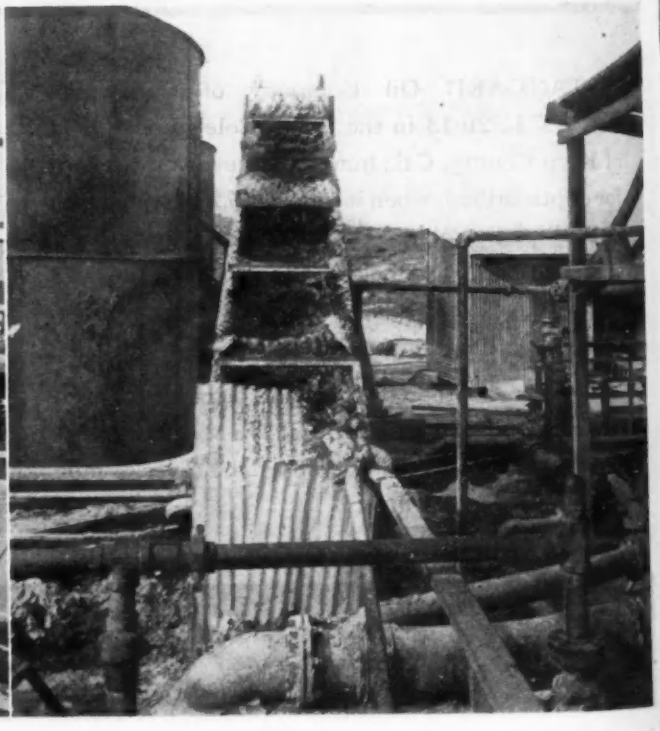


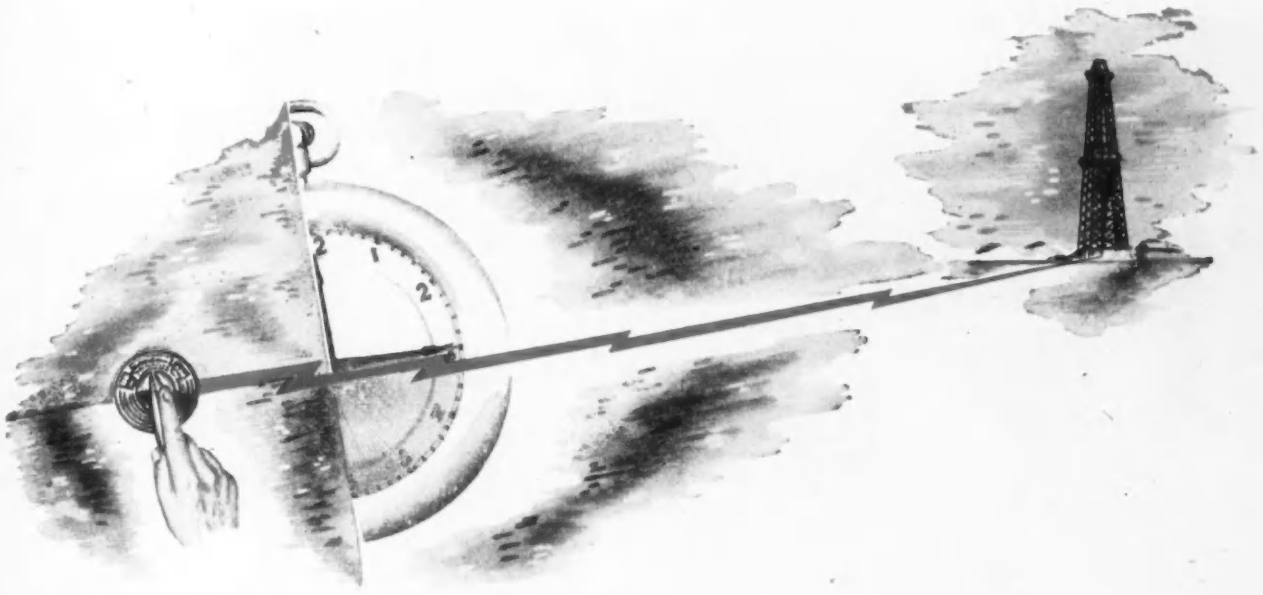
The return flow from the well first passed through a flume, where the proper amount of water was added to maintain desired fluidity. Thence over the screen, through a branch of the flume which permitted the use of either screen, bypassing the screens, or dumping directly to waste pits, and from the screen sump into a pit serving as accumulator for the recirculating pump. A tee and transverse pipe across the discharge hopper of the screen permitted a steady flow of wash water which kept the cuttings in motion and flushed them down to the waste pit, removing the need for jetting or clearing of a cuttings pit. The use of dual baffles to smooth the flow after the right-angled turn insured equal flow across width of screen, and prevented flushing of cuttings or dead areas which would tend to cake or seal over.

This pump, picking up the mud from the sump after it passed through the screen, put the fluid through a short delivery line to fill the storage tank, or which, by the turn of a valve, would direct flow over the gas ladder. By proper manifolding, this unit could be utilized to pick up direct from the returns pit and pump into either of the big pumps as the low-pressure member of the set-up, in case either of the other units required maintenance. This flow also served to pressure jets, and thus leave the entire output of the high-pressure system for well recirculation

The mud was put over the top of this degassing ladder—not to remove gas so much as to aerate the stream and aid in reducing its temperature. The ladder consists essentially of a flame, across which have been set channel irons so as to form what appears to be a stairway. The flow over the flanges of these steps takes in air at the ends and blends it with the stream, the splashing resulting in a thorough working of the entire flow. The mud, after traversing the ladder, enters a pit where it may be picked up as suction by any of the three pumps used to put up the initial pressure.







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With electrified drilling rigs, time loss due to twist-offs is substantially less; the d-c drives provide an inherent cushioning effect that is easy on both drill pipe and rig. Fishing operations go faster because of the precise finger-tip control and the rapidity of the drive's response. Faster acceleration, too, saves time every time you make a round trip.

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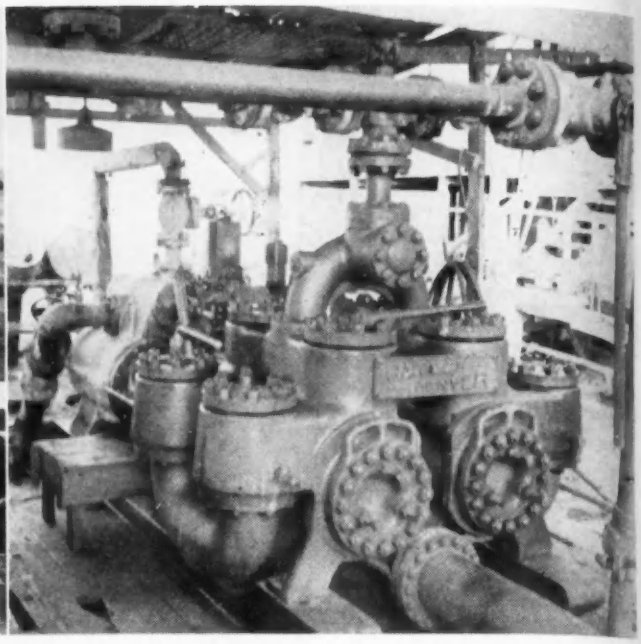
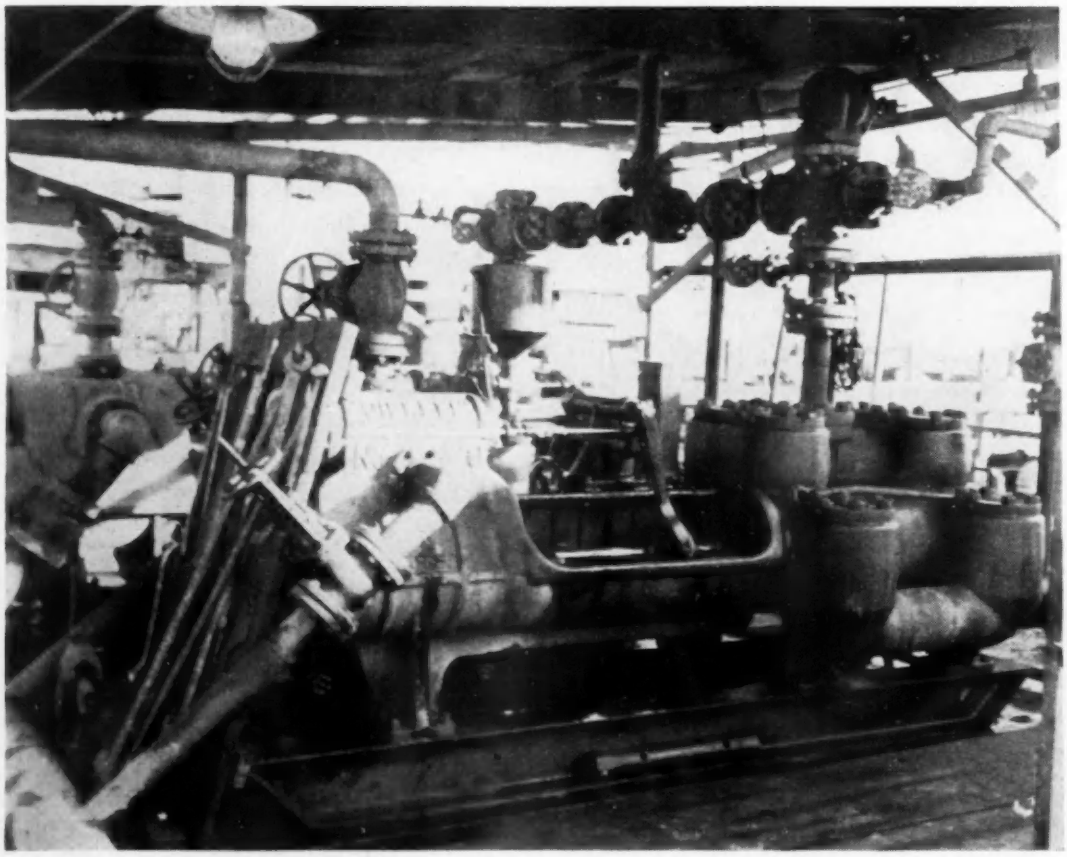
MOTORS AND CONTROL
For Oil-field Service

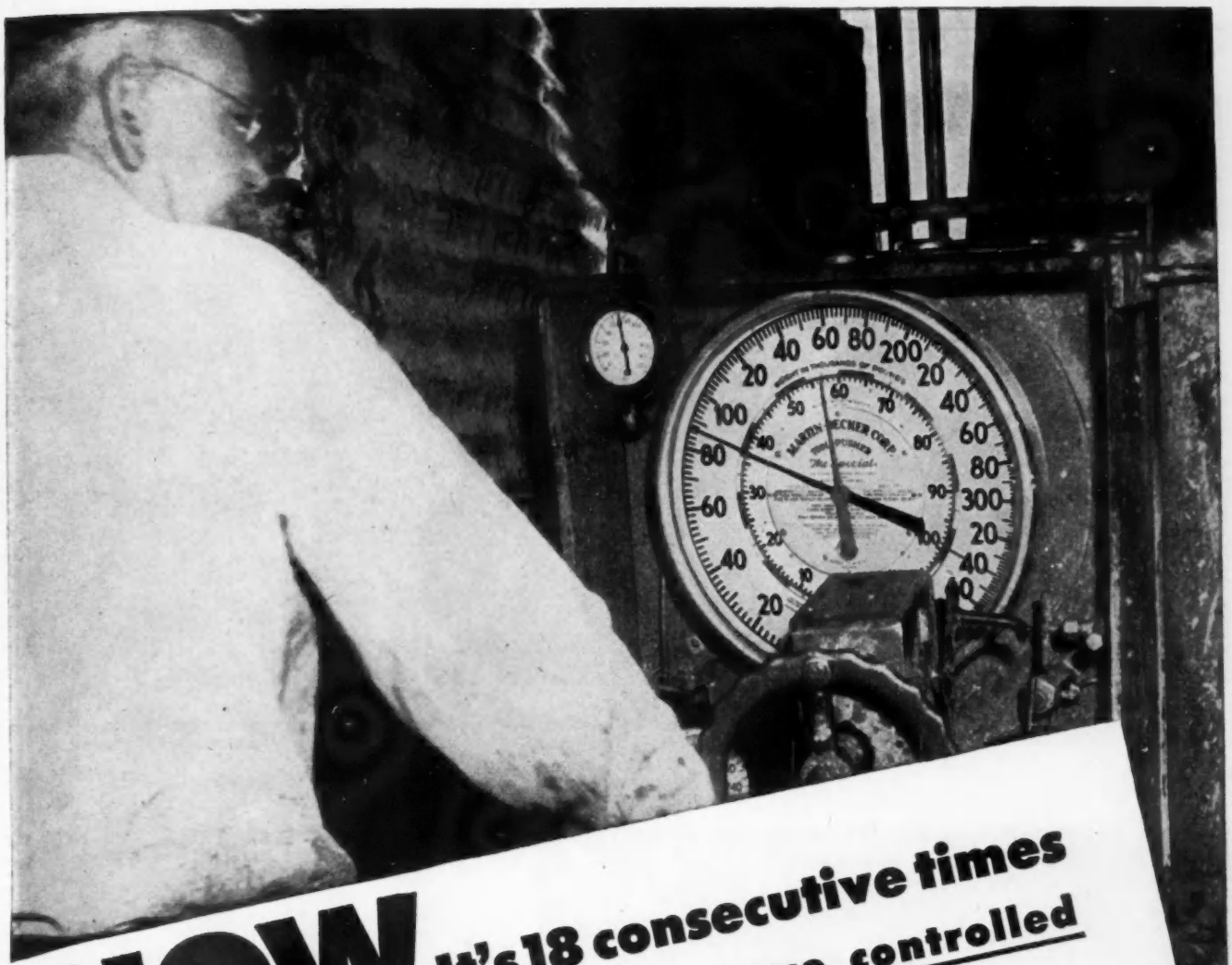
Mud weighting material, from the Mohave desert, was mixed with the required additives and mixed in batches, the two tanks in the background being used for storage. The 10,000 gallon tank to the left contained the supply for make-up, while the tank at the right contained enough water to mix a complete change of mud for the system. Manifold connections permitted the storage tank of mud to be circulated through a pump and jetted at the same time, or the supply could be picked up directly by the low-pressure unit of the compounded pumps in case fluid change as required.



The high-pressure pump, from the fluid end. In the foreground may be noted the delivery line from the other pump, connected into the suction line through quick-acting union and provided with quarter-turn valve. The steam line to the power end has the throttle set at convenient height and angle for close regulation, while block valve in exhaust line provides closure against steam from other pump backing up through common exhaust line in case of maintenance or repairs on steam end of pump.



The low-pressure unit of the compounded pumps normally used for maintaining mud supply. The layout was such, however, that the pump used for stirring the tank storage or the one used for circulation over the gas ladder could be used as low-pressure unit, leaving either this unit or the pump usually used as high-pressure unit to put up the required well pressure. The overhead delivery pipe, with riser through the roof to standpipe connection, shows the method of installing control valves, and unitized manifold with flange joints so any control member could be quickly withdrawn and replaced.



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MID CONTINENT DISTRIBUTOR: REED ROLLER BIT COMPANY: HOUSTON, TEXAS

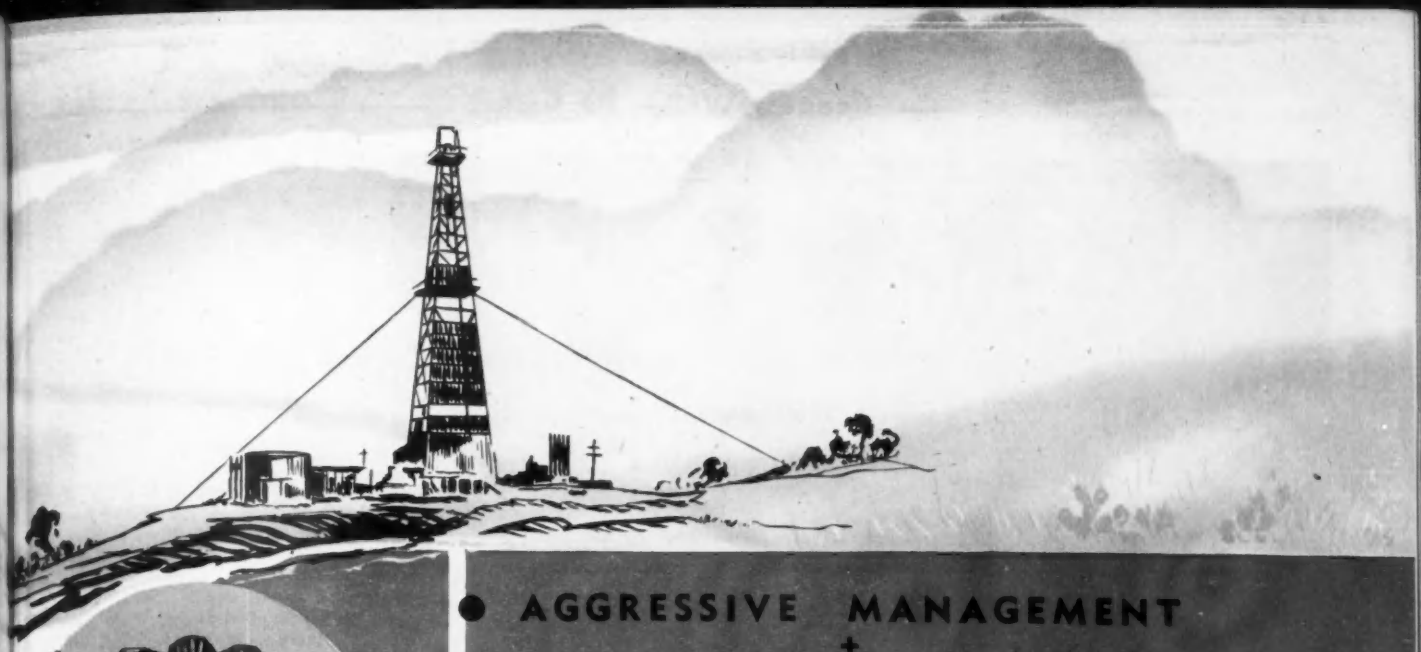
R. C. Stoner, director and vice president, Standard Oil Company of California.

J. E. Toussaint, general manager of operations, producing department.

A. L. Tietze, general superintendent, Northern District, production department.

C. L. Brewster (left) drilling superintendent and W. M. Quinn, drilling foreman, check the swivel and hoisting gear while the bit makes footage more than three miles below their feet.

Omar Cavins, assistant general superintendent, Northern Division, producing department



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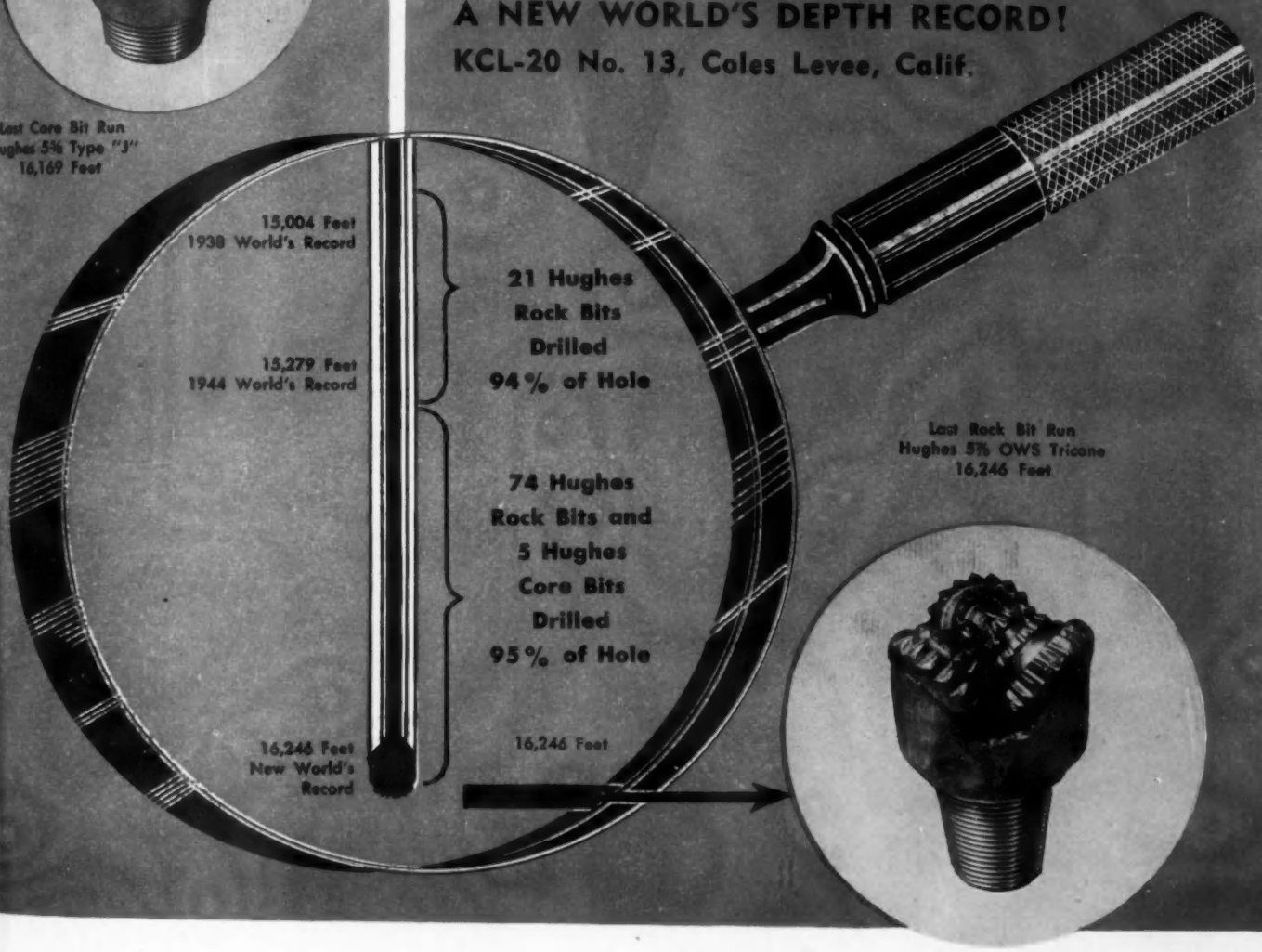
A NEW WORLD'S DEPTH RECORD!

KCL-20 No. 13, Coles Levee, Calif.

Last Core Bit Run
Hughes 5¾ Type "3"
16,169 Feet



Last Rock Bit Run
Hughes 5⅞ OWS Tricone
16,246 Feet

★ *Hughes* TOOL COMPANY ★

● HOUSTON, TEXAS

On the tool dock of KCL 20-13 stand the members of one of the crews responsible for the record-breaking job. Left to right, they are: S. B. Guptun, fireman; R. A. Geissel, relief derrickman; H. D. Deakins, rotary helper; R. E. Smith, relief driller; W. M. Ferguson, rotary helper; H. L. Pond, driller.

Another of the crews takes time out to face the hazard of the shutter while their relief makes more footage. Left to right, they are: F. B. Snyder, driller; Barney Steakley, relief driller; Allen Snider, rotary helper; Arthur Dix, fireman; Donald Kopecky, rotary helper; D. E. Behymer, rotary helper.

At the time the picture was taken, this was the daylight tour, but weekly shifts gave no crew that or other title. Left to right, they are: F. B. Wilson, derrickman; J. W. Mansfield, rotary helper; R. E. Garrould, rotary helper; Jack Erbe, rotary helper; O. P. Crowder, fireman; T. E. Dorsey, driller.

World's Deepest Well

■ CONTINUED FROM PAGE 17

time is divided into three classes: (1) time actually drilling, including coring; (2) operating time, which includes conditioning mud, circulating, running survey instruments, waiting on cement, running casing and other jobs necessary to the drilling of a well; and (3) repairs, this last figure including time spent on fishing jobs as well as time involved in maintenance of various equipment units which required cessation of drilling operations.

Of the total of 516 days between spudding-in and stopping of drilling, it appears that 2911½ hours (or 121.3125 days of 24 hours) actually was spent with the bit on bottom. This means that out of an average (ideal) day, 5.64 hours were spent drilling, 2.70 hours on repairs and the remainder in operating time. This same theoretical day drilled 31.5 feet of hole, establishing an average penetration rate of 5.6 feet per hour while drilling. The average day then breaks down to show a demand of 15 hours and 40 minutes for operating time, or nearly twice that required for both drilling and repairs. Since, at 16,246 feet, the average daily drilling time represents about the useful life of a rock bit, it is clear that the day, assuming that it began with the pipe out of the hole, consumed 4 hours running pipe, 5.64 hours drilling, 4 hours pulling pipe, 2.70 hours for repairs, and up to 6 hours for conditioning the mud in the hole—leaving but slight margin into which more than one round trip per day can be squeezed.

Mud Procedure

The mud cycle at 15,843 feet was determined through the use of tell-tales to be approximately 2 hours 55 minutes. At total depth this interval had elongated only another 5 minutes, making the cycle from pump to screen approximately 3 hours. To insure thorough conditioning of the mud in the hole it was ordered that, no matter what the condition of the bit, circulation be maintained for 6 hours, or approximately two complete cycles, before coming out of the hole. This circulation time in itself accounts for much of the time charged against operating in the log, as it was non-productive insofar as deepening the hole was concerned, but regarded as highly necessary in view of the high temperature encountered down the bore. At 16,000 feet the temperature was reported as being "around" 403° F. This high temperature, together with the weight of mud carried—averaging over 98 pounds—made it necessary to watch circulation carefully at all times.

The mud was mixed in batches and stored in a 1000-barrel tank with ample always on hand to provide complete renewal of the cycle in case of gas cutting or other change in flow from the hole. The weighting material used was a Mohave desert product, trucked to the rig and combined with various commercial additives to provide the required viscosity and other characteristics demanded by depth and temperature.

Circulation was through two pumps, one 16¼ x 7¾ x 20 serving as low-pressure unit, and delivering to suction of an 18 x 8 x 20 high-pressure unit. Suction was through a 10-inch line from the sump at the base of the gas ladder, though the system could be fed through either of two smaller pumps for a short period. In case of breakdown of either unit in the compounding system, it was possible to manipulate the manifolding of discharge streams from either the 14 x 6¾ x 14 ladder-circulating pump or the 14 x 7¼ x 14 unit used for the mud-mixing or transfer, so as to provide low-pressure flow to the remaining 20-inch pump as high-pressure unit. It was customary to maintain circulation through this hook-up for the specified time, but not to attempt drilling unless both 20-inch pumps were in operation.

Mud was flowed over either of the pair of screens, thence through a short flume to the sump where it was put over the gas ladder. This ladder, in construction much like a fish-ladder around a dam, served to aerate the mud, breaking up any colloidal lumps which may have formed after screening, and cooling it to little above atmospheric temperature before discharging the stream into the suction pit.

The mud line to the derrick was carried overhead to its connection with the standpipe manifold. the paired risers each serving a 55-foot 2½-inch hose, one connected to the swivel gooseneck through a 360-degree swing joint, the other made up with a "poor boy" connection for emergency use. A drill pipe wiper, installed under the master bushing of the table, aided in saving mud, as well as making for cleaner floor conditions. One such wiper, in use below 16,000 feet, had stripped more than 54 miles of pipe, and was still in good condition.

Advantage was taken of the hilly country to remove cuttings from below the shale shaker by means of a corrugated iron flume, to which sufficient water was added to keep the material in motion until it reached the waste pit.

Drill Pipe

Makeup of the drill pipe at the time final depth was reached showed the top 3060 feet (34 stands) to have been 15.5-pound range 2 internal flush high-tensile pipe, equipped at each joint with rubber protector and fitted with double pin subs; the next 1102 feet (12 stands) were 15.0-pound range 2 pipe, similar to that immediately above it except in weight; then came 6181 feet (69 stands) of 15.5-pound range 2 slim-hole external flush pipe, which carried the string well toward the bottom of the 7-inch casing. The final 5768 feet (64 stands) was 13.3-pound range 2 grade E pipe. The employment of external flush pipe below the top 46 stands—which limited the use of casing protectors to that group—was to reduce as much as possible the tremendous braking power exerted by rotation of more than three miles of pipe through heavy, viscous mud. Assuming one square foot of surface—braking area—per lineal foot of the string, the rotary or drilling engine was required to drag 1805 square yards of rough pipe surface through the mud, and at speeds upwards of 100 r.p.m., this work alone absorbing most of the power output of the engine. Since the braking resistance increases as the cube of the speed, it appears that in deep drilling the resistance to turning itself constitutes a deterrent toward the employing of high drill rotating speeds.

The drill pipe is computed to have had a theoretical stretch in free air of 27 feet, or around 18.5 feet when suspended in mud of standard consistency and weight. It is probable that the long slim stem also absorbed a considerable number of turns of the rotary table before beginning bit rotation, though no calculations covering this amount are available.

All drill pipe was of the double-box type, 3¾-inch double pin subs being used and discarded or refaced as soon as wear approached reduction in diameter to nearly that of the end of the pipe joint. The pipe was inspected as run, and joints showing kinks or bends or exhibiting more than normal wear at either end were promptly discarded.

To facilitate the handling of the slips when running pipe, the rig used a skid plate on the rotary table. This plate was a disk of ⅜-inch steel, cut to fit closely to the outline of the rotating portion of the table. A slot cut in one side permitted the unit to be slipped into place with pipe in the hole. Two pins, made up from short pipe nipples welded to the lower side of the disk, fitted into the drive bushing holes in the table, and maintained the disk in place while rotating to make up or break out joints.

Slips carried on this smooth place could be placed by one man, instead of requiring the efforts and attentions of two or three. A push on the center handle canted the slips and at the same time propelled them against the pipe and into the bushing, where engagement was automatic. When removing the slips from the bushing, the disk permitted quick spotting for re-use, without danger of interference from necessary breaks in the surface of the rotary table.

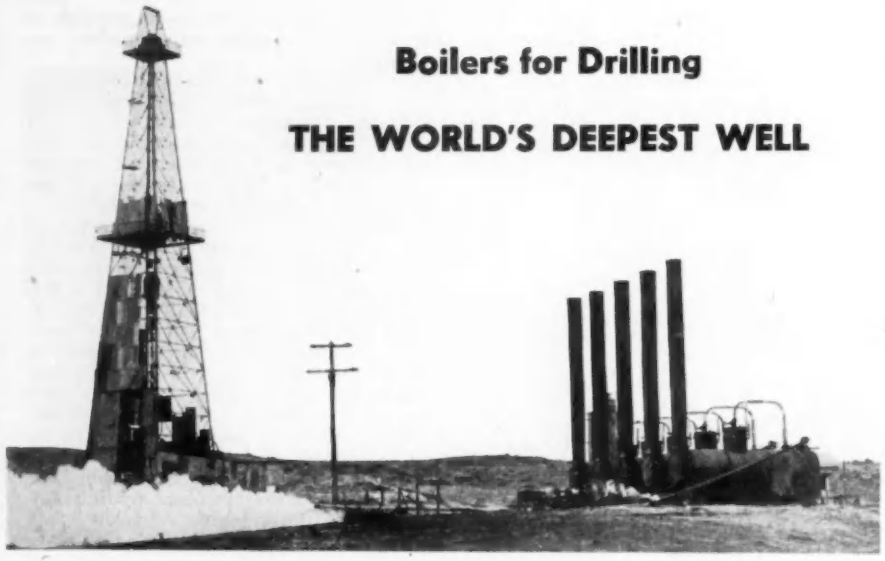
Fishing Jobs

Perhaps no other single item of the drilling log more effectively testifies to the excellent work of the drilling crews and the close supervision of materials and operations than does that section devoted to fishing jobs. On KCL 20-13 the log shows that there were but 24 fishing jobs, none of them of an especially serious nature. The break-down is as follows: due to drill pipe failure, 3; due to drill bit failure, 14; due to other causes, 7. Although less numerous, the drill pipe failures consumed more of the time charged to "repairs" than did any other cause. One pipe fishing job alone—the only extended one on the well—required 17 days and 3 hours. Of the drill bit failures, the quickest fishing job recovered the lost bit parts plus a finger from the junk basket and then cut nearly two feet of hole, all within three hours of reaching bottom at 16,046 feet.

One fishing job occurred when pulling out of the hole at 9411 feet. While being moved out from over the table the drill pipe dropped onto the slips, causing them to bounce and release their grip on the pipe still in the hole. Result: one stand of 4½-inch drill pipe, the drill collar assembly and the core barrel were dropped into the hole—to fall for nearly two miles before striking bottom. This hard luck was offset by an occurrence while going into the hole at 14,203 feet. While lowering the string into the hole, the thread at the junction of box and lifting plug failed, dropping the pipe. The slips, however, caught the pipe and held it from dropping into the hole.

Although reamed from the 11,001-foot level down, only one reamer failure was reported and it, from the nature of the trouble, could have been chargeable only to the human element in failing to replace a locking device after renewing cutters.

To establish the new depth record, KCL 20-13 required 642 bits, of which



Boilers for Drilling

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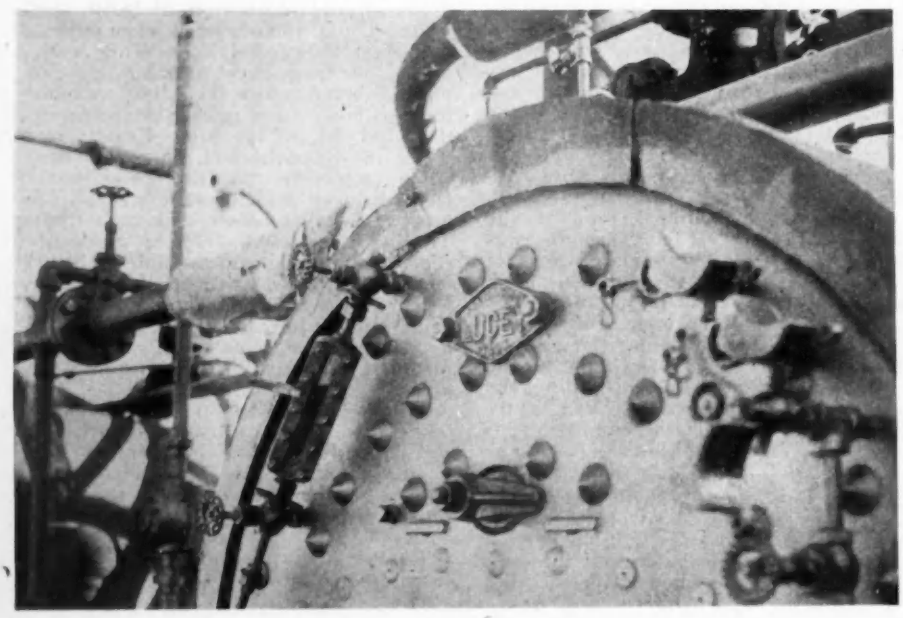


98 were core bits. This gives an average footage cut of 25.305 per bit, which figure would be increased slightly were the rock bits used as reamers in the 10⅝-inch hole above 11,001 feet subtracted from the total. The average for the entire well reflects the influence of the more difficult drilling down the hole, as 38 bits were required to make the footage below the 16,000-foot mark, averaging only 6.47 feet per bit or little more than one quarter of overall figure.

Coring was continuous from 9213 to 9590 feet, wire-line core barrels being used for this work. Below that depth spot coring was done when apparent changes in formation were encountered, conventional core barrels and bits being used. Coring, or at least the securing of formation samples, was also accomplished every time it was necessary to run a junk bit. Practice called for making as much as two feet of hole with the junk bit if possible. The core cut by this method was recovered in irregular fragments ranging in size from larger than an egg down to small buckshot.

Steam Generating Plant

Five 100-horsepower locomotive-type oil-field boilers were required to produce steam for the operations at KCL 20-13. Four of the units were 250-pound boilers, the fifth, 300-pound. All were equipped with firebox-type superheaters, consisting of two loops of pipe, one on either side wall of the firebox, and united at the top by yoke connections to feed pipe from dome and to dry pipe on the outlet line. These units, taking wet steam at the lower end of the loop, effectively removed all moisture, the crewmen rejoicing in "blue steam" at the rig on the coldest days.

The boilers were gas-fired, with full automatic regulation of fuel through units connected to the steam main. Forced draft also wes regulated by these and fuel control units, while automatic feed-water regulators kept the level in the boilers within very close limits despite heaviest steam draft when starting out of the hole or with all four mud pumps and the drilling engine in operation. Blowdown was manual, each boiler being equipped with a quick-opening valve at the mud ring—normally kept open—and a blowdown valve at the side of the boiler, controlled by direct stem extension from a position at the front sheet.

The boilers were completely lagged, except for the front sheet and smoke-box door, the insulating material being enclosed in sheet steel shells which bolted together to exclude even the hardest rainfall. The steam main was also lagged, as were the individual exposed lines to and from the superheaters—except when material shortages made such protection impossible to obtain.

The feed water was first treated in an enclosed, pressure-type treating unit to remove hardness, and then brought close to the boiling point in an atmospheric-type vertical feed-water heater. This unit also served as suction sump for the feed-water pumps, insuring positive suction pressure.

All five boilers normally were kept on the line, although any four could carry the load over a short time by forcing if the fifth required maintenance. Under normal operation, all boiler maintenance was saved for the daylight fireman. No rig shutdown was chargeable to failure

of any portion of the steam-generating equipment.

Personnel

Under a plan whereby crews rotated each week, no designation of any tour as "daylight" was possible, crews being known by the driller's name. Thus the maintenance work was spread over the entire force, as was the task of maintaining the pace during the night. The crews were not handpicked for the recork-breaking well. Most of them hailed from Taft, a few from Bakersfield. Most of them were old-timers on the Standard of California's payrolls. Of the drillers, one had 22 years of service, another over 20, while the third was a mere "junior" with but 16 years on his record.

The Taft production office, under whose charge the well was drilled, also shows long service records. To this long service with the company, and to its long established rules for carefulness and safety may be ascribed the many records set up by KCL 20-13, not the least of which is the remarkably low lost-time record established. Speed in making hole was never paramount, and even under the mounting tension of drilling when each new foot meant a new record there never was a tendency to slight any of the many precautions which combined to make possible the attainment of the record.

Results

The 343 days expended in drilling from 11,001 to 16,246 feet afford the Standard Company knowledge of the composition and probable unproductiveness of more than a vertical mile of formations underlying producing zones in nearby fields. Such knowledge may return many times its initial cost in the savings earned by *not drilling* other wells in the area below known producing formations. This saving will accrue not only to the company drilling KCL 20-13, but all others in the same general area.

Beyond the geological or prospecting information obtained, there is a gain to the entire drilling industry in the knowledge that 3½-inch drill pipe, under favorable handling, may be counted on to carry a bit to a depth crowding close to a 1.5 factor of safety. Other equipment units used on the well have also proven their ability to carry loads well beyond those designed into them or normally expected of them. And again it has been proved that caution and precaution, backed by experience, have not yet reached their limits in deep drilling. For the final order to stop did not come through failure of any equipment or inability to turn the bit against the ever-increasing load, but solely because the management decided that the possible reward did not justify the mounting risk.

Giddens Tells About Role Of Oil in Three Wars

Besides playing a major role in World War II, and tipping the scale for Allied victory in World War I, petroleum also contributed largely toward the preservation of the Union during the Civil War, Dr. Paul H. Giddens of Titusville, Pennsylvania, curator of the Drake Well Memorial Museum, told the Engineers Club of Tulsa January 15.

In his talk, "Petroleum in Three Wars," he revealed that because of the discovery of oil in 1859, just prior to the beginning of the Civil War, the Union government had a weapon in its hands which provided sorely needed foreign credits, and also lubricants and illuminating oil with which to carry on the war. After the war, oil stimulated internal and foreign trade and aided in the economic rehabilitation of the nation.

Without oil it would have been impossible for the Allies to have been victorious in World War I, just as the present struggle would have been lost had not the Allied nations been blessed with an abundance of oil.

It was Europe's lack of crude petroleum that resulted in the scramble for the world's resources of this important commodity after the last war. Oil will surely again become an object of diplomacy and a possible disturber of the peace when victory comes, unless the nations of the world can solve the problem of supply and demand, Giddens asserted.

Wax "Stove" Warms Meals

America's fighting men in forward areas are getting hot meals as the result of a 3-ounce wax "stove," developed by Socony-Vacuum Oil Company, Inc. The new fuel tablet, which permits preparation of a hot meal in eight to 10 minutes, burns for 25 to 35 minutes, with little smoke. Wind, rain or snow will not put out the fire. The stove is made of high-melting point refined paraffin wax and fine sawdust. Its container is heavily waxed to withstand moisture and all climatic conditions. To heat the rations, the soldier digs a hole six inches deep and eight inches long, drops in one of these small tablets and lights the flap of the container.

Repressuring of Osage Wells Being Considered

The Osage Tribal Council of Oklahoma, are considering petitioning the Secretary of the Interior and the Indian Commissioner to permit repressuring of all stripper wells on Osage lands. Recently the council voted to permit oil operators to undertake seismograph work under certain conditions and in restricted areas, and the council has been asked to consider opening all Osage lands to this type of prospecting.

Little repressuring has been undertaken in the Osage area although some of the first water-flooding projects attempted in Oklahoma are successfully operating there. Council members favoring repressuring contend that this will not only result in increased oil production but will prevent premature abandonment of wells.

Oil Production Director For Laboratory Appointed

Pennsylvania Grade Crude Oil Association, Bradford, Pennsylvania, has appointed Dr. Rudolf J. Pfister, of the Pennsylvania State College, as chief of oil production work in a laboratory being established by the association in Bradford. He will act as general consultant on problems involving secondary recovery.

Author of many scientific papers, Pfister has been assistant professor of petroleum and natural gas engineering in the Mineral Industries Experiment Station at Penn State.

Selection of Pfister to head the association laboratory, where he will work with Richard V. Hughes, director of production research, and J. P. Jones, director of production, represents another step in vitalizing the $300,000 three-year research program recently established by the Penn Grade organization. The association will provide $150,000, with the remainder to come from industry. Objective is to discover new methods to recover an estimated 6,000,000,000 barrels of Pennsylvania crude oil not obtainable by current operations.

Extinguish Oil Fire

H. L. Patton and his son, O. L. Patton, of the firm of Patton Oil Well Fighters Company, Houston, have returned from Venezuela, where they were called to fight a burning well in the La Paz field, near Maracaibo. The burning well, brought under control nine days after Patton and his son started work, is the property of the Shell interests.

December Wildcat Mark Shows Increased Activity

Data compiled by District Editors and coordinated
By L. J. LOGAN, Associate Editor

EXPLORATORY drilling in the United States during 1944 failed to reach the government-set goal of 5000 wells by nearly 15 percent, as data through December indicate 4324 exploratory tests completed for the year. However, the search for new reserves was intensive in December, with completions running comparatively high, giving some hope of attainment of the same 5000-well goal set up again for 1945. During the month, exploratory completions averaged 89 per week, or on the basis of over 4600 a year.

The 4324 exploratory tests completed in 1944 compare with 3612 in 1943, an increase of close to 20 percent. This increase was relatively smaller, however, than the gain in all drilling for 1944 over 1943.

Of the total exploratory completions, including wildcats, outposts, and new pay tests, 19.5 percent were productive, only a slightly lower percentage than in 1943, when 20.3 percent produced.

The increase over last year in number of new oil fields discovered was 18 percent, or nearly the same increase as that in the number of exploratory tests completed. Number of new oil pay zones opened showed a somewhat smaller gain of 17 percent, while reported major extensions to established fields were up only 2 percent, indicating conservatism in stepping out from proved areas.

Noteworthy has been the virtual doubling of distillate discoveries in 1944 as compared with 1943 and the relatively large number of reported extensions to distillate fields.

Gas discoveries also have been much more numerous in 1944 than in 1943, with new fields and extensions showing large increases.

Relatively important exploratory development occurred in December throughout the country, with most of the active areas making good showings.

The Rocky Mountain states were represented in the December record as was New Mexico with three new fields. Illinois had an exceptionally large number of discoveries, Oklahoma reported three new fields and Mississsippi came through with a new field. Texas remained a dominant factor in furnishing new reserves.

■ SEE TABLES PAGES 45, 48, 49

Summary of Results of Exploratory Drilling

ITEM	Nov., 1944	Dec., 1944	TWELVE MONTHS JAN.-DEC. 1943	1944	Percent Diff.
Oil Discoveries	36	63	403	475	+ 17.9
New Fields	23	43	276	326	+ 18.1
New Pays	13	20	127	149	+ 17.3
Distillate Discoveries	5	3	24	41	+ 70.8
New Fields	5	3	15	32	+113.3
New Pays			9	9	
Gas Discoveries	7	9	72	117	+ 62.5
New Fields	6	8	56	102	+ 82.1
New Pays	1	1	16	15	— 6.3
Total Discoveries	48	75	499	633	+ 26.9
Extensions to Fields	11	12	145	172	+ 18.6
Oil Fields	10	11	132	135	+ 2.3
Distillate Fields		1	3	10	+233.3
Gas Fields	1		10	27	+170.0
Total Prod. Tests	59	87	644	805	+ 25.0
Dry Holes	324	271	2,968	3,519	+ 18.6
(Weekly Average)	65	68	55	66	+ 20.0
Wildcats	319	266	2,932	3,424	+ 16.8
New Pays	1	4		22	
Outposts	4	1	36	73	+102.8
Total Expl'tory Tests	383	358	3,612	4,324	+ 19.7
(Weekly Average)	77	89	69	82	+ 18.8
Percent Productive: (Weekly Average)	15.4	23.6	20.3	19.5	
Percent Dry: (Weekly Average)	84.6	76.4	79.7	80.5	

Completions are from weekly reports and cover 5 weeks in November, 1944; 4 weeks in December, 1944; 52 weeks in January-December, 1943; 53 weeks in January-December 1944.

Results of Exploratory Drilling in December and First 12 Months, 1944-1943, by Districts

State or District	DECEMBER, 1944														FIRST TWELVE MONTHS, 1944																	
	Productive Tests									Total Prod.	Unproductive Tests			Total Exploratory Tests	Productive Tests								Total Productive		Unproductive Tests			Total Dry		Total Exploratory Tests	
	New Fields			New Pays			Extensions								New Fields			New Pays			Extensions											
	Oil	Gas	Dis.	Oil	Gas	Dis.	Oil	Gas	Dis.		Wildcats	New Pays	Outposts		Oil	Gas	Dis.	Oil	Gas	Dis.	Oil	Gas	Dis.	12 Mo. 1944	12 Mo. 1943	Wildcats	New Pays	Outposts	12 Mo. 1944	12 Mo. 1943	12 Mo. 1944	12 Mo. 1943
Alabama											2			2	1						2			3		21		2	23	2	26	2
Arizona																										6			6	5	6	5
Arkansas	1	1								2	5			7	3	1	2				4			10	11	66		1	67	60	77	71
California											10			10	13	7		6	1		4	1		32	23	251		1	252	157	284	180
Colorado							1			1	3			4	1				1		5			7	1	9			9	9	16	10
Florida											4			4											1	7			7	4	7	5
Georgia																										8			8	4	8	4
Illinois	11			4			6			21	32			53	27		1	40			34			102	139	368			368	379	470	518
Indiana	1			1						2	7			9	8			2			2			12	8	70			70	88	82	96
Iowa																										2			2	3	2	3
Kansas	5	1								6	39			45	53	13					5			71	59	439		6	445	408	516	467
Kentucky	3									3	10			13	15	5	4	4			2			30	21	120			120	118	150	139
Louisiana	1	1	1	1			1		1	6	6			12	10	4	10	11	1	3	5		2	46	40	110		16	126	118	172	158
North	1		1							2	4			6	3	2	5		1	1	1		1	14	11	69		12	81	94	95	106
South		1		1			1		1	4	2			6	7	2	5	11		2	4		1	32	29	41		4	45	19	77	49
Michigan	1						1			2	19			21	11	3		3			3			20	29	213	2	2	217	204	237	233
Mississippi	1	1								2	4			6	3	1	1				1			6	5	75		11	86	58	92	63
Missouri											4			4											4	11			11	18	11	22
Montana	1									1	7			8	1	3		2			1			7	6	37		3	40	20	47	26
Nebraska											3			3												11			11	31	11	31
New Mexico	3									3	9			12	7	3		1			2			13	7	60			60	48	73	55
Ohio							1			1	7			8	2	19					5	17		43		76			76		119	
Oklahoma	3			1			1			5	19			24	37	14		7	3		12	3		76	57	241		3	244	304	330	391
Tennessee																										4			4	1	4	1
Texas	12	4	2	10	1					29	75	4	1	109	126	26	14	63	7	6	48	5	8	300	221	1200	19	23	1241	998	1542	1187
E. Texas, Border											1			1								3	2	5	3	14			14	5	19	8
Rest of East Texas	2									2	3	2		7	9			7		1				17	8	107	3	1	111	89	128	97
North Texas	5			2						7	17	1		25	41	1		19	1		6			68	65	287	4		291	253	350	288
West Central				2						2	7			9	12			9	1					22	18	117	2	2	121	117	143	135
West Texas	1			1						2	17			19	19	2		5			17			43	21	171	7	6	184	80	227	101
Panhandle																										6	1		7	4	7	4
Upper Coast	3	1	2	4	1					11	7	1		19	12	5	4	8	3	2	6	1	2	43	26	130	1	4	135	97	178	123
Lower Coast	1	2		1						4	7		1	12	23	13	9	10	1	3	7	1	3	70	53	167		7	174	157	244	210
Southwest		1								1	10			11	8	5	1	4	1		9			28	26	142		3	145	130	173	156
South Central											6			6	2			1					1	4	1	59	1		60	54	64	55
Utah																											1		1		1	
West Virginia																2			1			1		4		2			2		6	
Wyoming				3						3	2			5	8	1		10	1		3			23	12	17		5	22	8	45	20
Total United States	43	8	3	20	1		11		1	87	267	4	1	359	326	102	33	149	15	9	135	27	10	805	644	3424	22	73	3519	2968	4324	3612

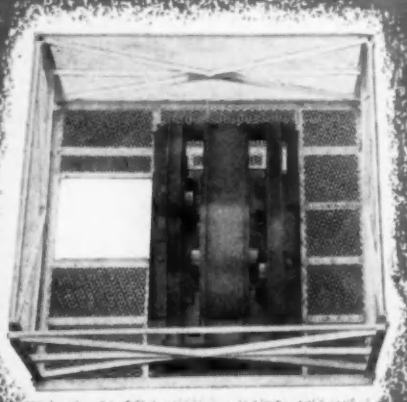
New Oil and Gas Fields and New Pay Horizons Discovered in the United States in December, 1944

New Oil and Gas Fields and New Pay Horizons Discovered in the United States in December, 1944

Also Important Extensions to Established Fields

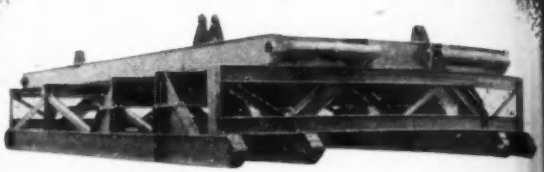
COUNTY	FIELD	COMPANY, WELL AND LOCATION	Date Spudded	Date Completed	Total Depth (Feet)	Completion Horizon (Feet)	[1]Name, Character and Age of Producing Formation	[2]Initial Production Method and Choke	Gravity of Oil	[3]Structure; [4]Method of Discovery	Tentative Evaluation of Discovery or Extension
		ARKANSAS—New Oil Field									
Union	Strong	Root Pet. Co.'s Union Saw Mill 1, c nw nw 27-18s-12w	9-14-44	12- 5-44	6380	6309-6320	Smackover lime	P 120	....	....	Showed rapid decline; in 2 wks went to salt water; outlook very poor.
		ARKANSAS—New Gas Field									
Johnson		Arkla-Gas Co.'s S. M. Hudson 1, c se 15-10n-24w	....	12- -44	6110	3400-3430	Lime, Miss.	F 3.5 mln.	....	....	No estimate.
		COLORADO—Oil Field Extension									
Rio Blanco	Rangely	California Co.'s McLaughlin-Gov't 1, se nw 24-2n-103w	....	12-18-44	6500	-5960	Weber sand	F 350; ¼"	....	....	Classed as major development, possibly equaling or excelling Elk Basin in area and productivity. Extends fld 1¾ mi nw.
		ILLINOIS—New Oil Fields									
Clay	E. Bible Grove	Wisc. Rfg. Co.'s Doran Murvin 1, ne sw ne, sec. 22-5n-7e	11-12-44	12-19-44	2517	2508-2517	Cypress sd; Miss.	P 156	....	....	2 mi se Bible Grove pool and e of S. Bible Grove pool. Second well now completed. Limited to w. by recent dry hole, but no dry hole within mi any other direction.
Clinton	Santa Fe	Texas Co.'s Althoff 1, se sw sw, sec. 29-1n-3w	10-19-44	12- 5-44	2512	953- 974	Cypress sd; Miss.	P 5½, 2 wtr	....	....	1¾ mi s Bartelso South; 1¼ mi fr nearest dry hole. Importance questionable.
Edwards	S. Browns	Mitchell's Henderson 1, sw sw nw, sec. 5-2s-14w	10-28-44	12- 5-44	2869	2850-2869	Bethel sd; Miss.	P 50	....	....	¾ mi nw discov well which is now abnd; 1½ mi w only other prod in fld. Offset by 2 dry holes.
Franklin	Ewing	Central Pipe's Rose 1, se ne se, sec. 4-5s-3e	10- 4-44	12- 5-44	2980	2973-2980	McClosky li; Miss.	P 146, 15 wtr	....	....	Nearly 3 mi n Whittington pool; 1½ mi fr nearest dry hole.
Franklin	N. Thompsonville	Deep Rock's Tr. 1, ne se se, sec. 15-7s-4e	10- 5-44	12-19-44	3152	3113-3133	Aux Vases sd; Miss.	P 110, 3 wtr	....	....	2 mi n Thompsonville pool; nearest dry hole 1½ mi to sw. One of the more promising discovs of month.
Hamilton	West End	Sinclair-Wyoming's Russell 1, sw se sw, 17-7s-5e	10-29-44	1- 2-45	3150	3131-3150	Aux Vases sd; Miss.	S 425	....	....	3½ mi e N. Thompsonville. W offset dry in St. Louis and recent dry hole to McClosky is 1 mi n.
Jasper	Newton	Texas Co.'s Huddlestun 1, nw sw ne, sec. 13-6n-9e	11-19-44	1- 2-45	3022	2929-2936	McClosky li; Miss.	P 39, 22 wtr	....	....	1¾ mi w N. Boos pool. Nearest dry hole 1½ mi away.
Jefferson	Fitzgerrell	Texas Co.'s Inland Steel 1, se sw sw, 25-4s-1e	10-19-44	12-12-44	3012	2750-2786	Bethel sd; Miss.	P 53, 46 wtr	....	....	4 mi fr nearest prod, 1 mi fr nearest dry hole.
Richland	N. Calhoun	Pure-Ohio Oil's Koertge 1, ne ne nw, sec. 33-3n-10e	11-19-44	1- 2-45	3280	3155-3168	Rosiclare sd, McClosky li; Miss.	P 149, 97 wtr	....	....	2 mi n Calhoun pool, which prod fr McClosky, Levias. No dry holes in 1½ mi radius.
Richland	E. Olney	Texas Co.'s Wright 1, ne sw nw, sec. 24-4n-10e	11- 9-44	12-19-44	3094	3080-3091	McClosky li; Miss.	P 416	....	....	1¼ mi e Olney pool. Closely restricted by dry holes to w and n.
White	Trumbull	Lewis's Burkhardt 1, se ne sw, sec. 18-5s-9e	11-20-44	1- 2-45	2858	2830-2858	Cypress sd; Miss.	P 192	....	....	3 mi sw N. Carmi. Nearest dry hole nearly 1 mi away. Has attracted considerable interest.
		ILLINOIS—New Oil Pays									
Edwards	Albion Consol.	Carter's Schmittler 1, ne sw nw, 12-3s-10e	10-19-44	12-12-44	3186	2650-2690	Hardinsburg sd, Miss.	S 756, 60 wtr	....	....	Near fault in area where prod may be expected fr any sd of sufficient porosity. Prod chiefly Pennsylvanian.
Edwards	Albion Consol.	Superior's Mussett 5, ne nw nw, 12-3s-10	10- 2-44	12-12-44	3119	2138-2146	Degonia sd, Miss.	P 150, 2 wtr	....	....	Near fault in area where prod may be expected fr any sd of sufficient porosity. Many duel and triple completions. Degonia probably of minor importance.
Edwards	Bennington	Tide Water's Van Sheoick 1, nw ne nw, 13-1n-10e	....	12- 5-44	3235	3214-3235	McClosky li; Miss.	F 145	....	....	OWDD. Originally comp for 7 bbls in Aux Vases td 3160 ft. Second well has been deepened, ip 243 bbls; several others drlg.
White	N. Calvin	White Eagle's Woodham 1, se se ne, 30-3s-14w	....	12- 5-44	3082	2996-3082	McClosky li; Miss.	P 42	....	....	Most nly well in pool, ¾ mi fr McClosky prod in Grayville to n. No. of McClosky dry holes in area indicates unimportant, spotty prod.
		ILLINOIS—Oil Field Extensions									
Richland	Calhoun	Climer's E. Richards Hrs 1, ne se ne, 7-2n-10e	10-14-44	12-12-44	3188	3157-3172	McClosky li; Miss.	P 30	....	....	½ mi s exten; 1 dry hole to McClosky intervenes.
Richland	Noble	Pure's Sharp B 1, ne ne sw, 2-2n-8e	11-16-44	12-12-44	2982	2956-2982	McClosky li; Miss.	F 595	....	....	½ mi sw exten; mi fr prod in Clay City Consol.
Wabash	E. Lancaster	Greauling's Case 1, se se nw, 36-2n-13w	10-16-44	12-12-44	2630	1745-1761	Beihl sd; Penn.	P 5	....	....	Halfway betw Lancaster, Allendale pools. Importance extremely doubtful.
Wayne	ClayCityCons.	Pure's Jones 1, sw sw se, 24-1n-8e	9-11-44	12- 5-44	3215	3010-3066	Aux Vases sd; Miss.	P 48	....	....	1½ mi exten; more wells in McClosky or Aux Vases expected.
Wayne	Goldengate	Cities Service's Kletzke 1, nw ne sw, 4-3s-9e	10- 9-44	12- 5-44	4331	3339-3366	Rosiclare sd; Miss.	P 130, 10 wtr	....	....	¾ mi s exten; 1¼ mi n Leech Twp. pool.
Wayne	N. Mt. Erie	Dolly-Reyfield's Totton Rothrock 1, sw se se, 5-1n-9e	9- 1-44	12- 5-44	3270	3222-3225	McClosky li; Miss.	P 20, 650 wtr	....	....	1½ mi fr nearest prod in pool. Prod spotty, dry holes intervene.
		INDIANA—New Oil Field									
LaPorte	LaPorte	J. M. Barton's Fisher 1, se ne 19-37n-2w	....	12- -44	458	448- 458	Devonian li; Devo.	P 5	....	....	Unimportant.
		INDIANA—New Oil Pay									
Posey	W. Hovey	Rodgers Cartage Co.'s Deacon-Lynch 1, se sw sw	....	12- -44	2850	2718-2737	Aux Vases sd; U Miss;	P 85	....	....	Usual pay Mansfield at 1094 ft.
		KANSAS—New Oil Fields									
Brown		Clifton Gall's Livengood 1, ne nw sw 3-1s-15e, 8 mi sw Falls City, Neb., pool.	....	12-20-44	2590	2578-2590	Hunton li; Devo.	P 85, 25 wtr	....	....	May develop like Falls City pool; 1st commrcl prod in county.
Ellis		Brewson Drlg Co.'s Schmeidder 1, nwc se 28-12s-17w	....	12-12-44	3647	3642-3647	Simpson sd; Ord.	F 88	38	Ant; dr.	May connect w large Shutts pool, 2 mi to nw.
Ellis		Bridgeport Oil's Sessin 1 B, se sw se, 15-11s-19w	....	12- 9-44	3474	3453-3474	Arbuckle li; Ord.	S 9	22	Str trp; sub.	Unimportant. 2 mi ne Solomon pool.
Rice		Nelson Drlg Co.'s Allison 1, nec 23-19s-6w, 4½ mi e Mitchell	....	12- 9-44	3384	3341-3346	Chert, Miss.	P 15, 3 wtr	32	str trp; sub.	Unimportant; may cover ¼ sect.
Russell		Harry Gore's Brack 1, sw sw ne 17-15s-12w, s of Lewis pool	....	12-21-44	3313	3310-3313	Viola li; Ord.	P89, 25% wtr.	....	Ant; dr.	May prove up 4 sections and connect Lewis and Forest Hill pools.
		KANSAS—New Gas Field									
Douglas		J. M. Huber's Mohler 1, cnw ne 22-12s-20e	....	12- 2-44	718	695- 711	Squirrel sd; Penn.	F 627 mln.	....	Ant; dr.	Unimportant. 3 mi ne Lawrence.
		KENTUCKY—New Oil Fields									
Henderson	Burbank Chapel	Sinclair's Humphrey 1, 6-p-21	....	12- -44	2797	2552-2558	McClosky li; Miss	P, F 250	....	....	.....
Henderson	Grassy Pond	W. F. Lacey's Williams 1, 4-q-20	....	12- -44	2612	2596-2612	Aux Vases sd; Miss.	P 23	....	....	.....
Union	Sturgis	Farmer and Chenault's Slaton 1, 17-M-19	....	12- -44	1361	1350-1361	Hardinsburg sd; Miss.	P 35	....	....	.....
		NORTH LOUISIANA—New Oil Field									
Richland	Delhi	C. H. Murphy, Jr.'s J. E. Holt 1, 21-7n-9e	10-31-44	12-10-44	4322	3280-3290	Tuscaloosa sd; U. Cre.	P 190; ⅛"	38	Ant; Refl, Seis.	Est reserve 800,000 bbls.
		NORTH LOUISIANA—New Distillate Field									
De Soto	Spider	G. C. Schoonmaker-E. P. Jarvis-A. Marcell's Anders 1, c sw ne 5-11n-14w (OWWO)	....	12- -44	6327	4868-4876	Glen Rose li; L. Cre.	F 60, 12.5 mln	....	Ant;	May be fair gas reserve.

Moore MAST AND AUXILIARY EQ



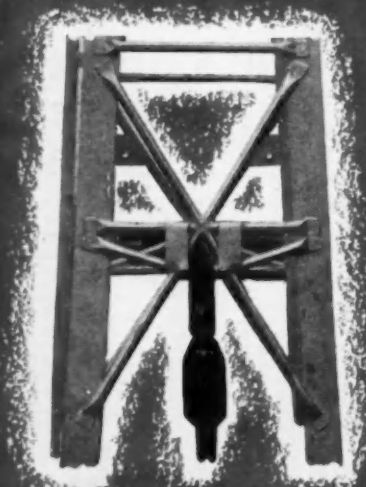
CROWN SAFETY PLATFORM

This unitized welded platform can be quickly attached or detached. It can be folded for convenient transportation. Photo, also shows sheave guards over crown block.



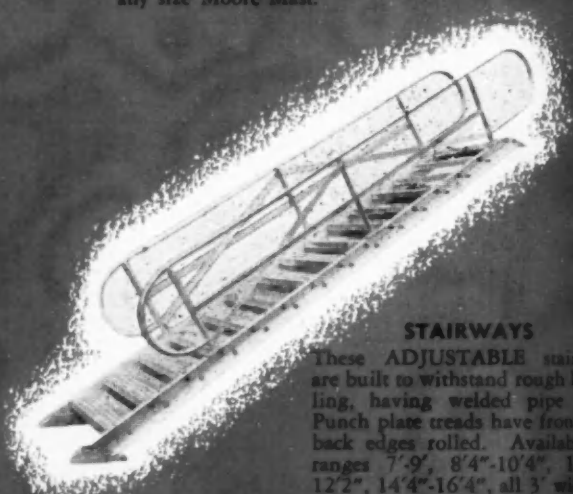
MAST SUB-BASE

This base is designed as an elevating support for the regular skid base. The mast can be used with or without this support, depending upon under-the-floor clearance requirements. Built in heights from 2'6" to 10' and in lengths to suit rig. Skids clear 10' cellar opening. The same sub-base will accommodate any size Moore Mast.



CORE LINE SHEAVE

High capacity roller bearing type. A universal swivel connection provides perfect alignment. The sheave can be attached to front, back or side of mast.



STAIRWAYS

These ADJUSTABLE stairways are built to withstand rough handling, having welded pipe rails. Punch plate treads have front and back edges rolled. Available in ranges 7'-9', 8'4"-10'4", 10'2"-12'2", 14'4"-16'4", all 3' wide.

PIPE RACK & WALKWAY

Any length rack and walk can be attained as each section is a completely welded truss. Provides combination ramp and stairway from walk to derrick floor. These racks simplify erection in the field and are easily transported. Standard Bolted Post type also availble.

ARY EQUIPMENT

As speed and economy become increasingly important in getting wells started so the use of Lee C. Moore Jackknife Cantilever Drilling Masts increase.

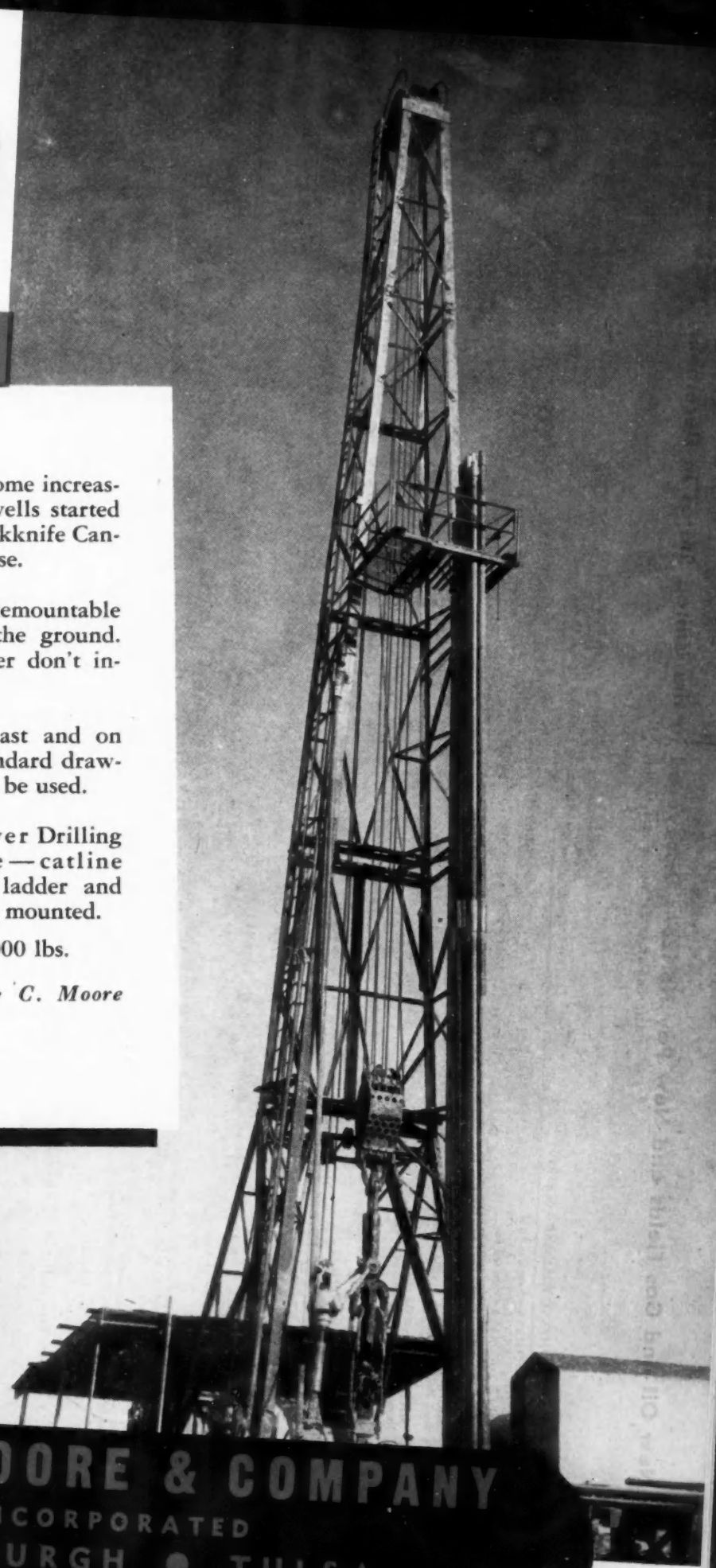
It's the one portable and demountable mast that is rigged-up on the ground. High winds and bad weather don't increase costs and time.

Working space in the mast and on the floor is ample. Any standard drawworks, rotary and power can be used.

The Jackknife Cantilever Drilling Mast is delivered complete — catline sheave, working platform, ladder and crown block are permanently mounted.

Mast capacities up to 415,000 lbs.

For a better rig use Lee C. Moore auxiliary equipment.



LEE C. MOORE & COMPANY

INCORPORATED

PITTSBURGH ● TULSA

EXPORT OFFICE ● 30 ROCKEFELLER PLAZA, NEW YORK

New Oil and Gas Fields and New Pay Horizons Discovered in the United States in December, 1944

Also Important Extensions to Established Fields

COUNTY	FIELD	COMPANY, WELL AND LOCATION	Date Spudded	Date Completed	Total Depth (Feet)	Completion Horizon (Feet)	[1]Name, Character and Age of Producing Formation	[2]Initial Production Method and Choke	Gravity of Oil	[3]Structure: [4]Method of Discovery	Tentative Evaluation of Discovery or Extension
		SOUTH LOUISIANA—New Gas Field									
Terrebonne	Houma	Union Oil of Calif.'s Gaidry 1, 22-17s-17e	8-27-44	10- -44	12618	10290-10298	Miocene sd; Mio.	F cond, gas; 1/2"			Unimportant; probable gas reserve 2 billion ft.
		SOUTH LOUISIANA—New Oil Pay									
Jeff Davis	W. Tepetate	Barnsdall's Minos Miller 2, 38-7s-3w, e offset to disc. well	10-24-44	12-17-44	9407	9168-9180	Frio sd; Olig.	F 615.6; 4/64"	40	Ant; dr deeper	Reserve probably 5,000,000 bbls.
		SOUTH LOUISIANA—Oil Field Extension									
Cameron	E. Hackberry	Stanolind's Gulf Land Co. B-35, 377 n&w of sec. 10-12s-10w	6-27-44	11-26-44	11343	10804-10816	Camerina sd; Olig.	F est 308; 1/4"	31.3	Dr.	Adds some 500,000 bbls.
		SOUTH LOUISIANA—Distillate Field Extension									
Acadia	Egan	Sun's Mrs. C. H. Button 1, 3694 s 795 w of nec 1-10s-2w, 4000 e sw J. R. Daily 1.	8-31-44	12- 1-44	11000	10805-10824	Frio sd; Olig.	F 85; 1/2"	50	Dr.	Single-well reserve: gas 63,840,000 cu ft and 216,000 bbls. distillate. Extends fld 4000 ft sw.
		MICHIGAN—New Oil Field									
Allegan	Wayland	Raymond Donnersberger's Krubee 1, sw se ne 8-3n-11w	9-21-44	12- 9-44	1806	1802-1806	Traverse li; Devo.	P 35; trc. wtr		Coral reef; trend.	Small. 5 mi fr Hilliard pool.
		MICHIGAN—Oil Field Extension									
Bay	Essexville	United Drillers & Producers' Walraven 1, ne sw ne 16-14n-6e, Hampton twp.	10-14-44	12-10-44	2890	2730-2890	Dundee dolo & li; Devo.	F, S 73			1½ mi sw extension.
		MISSISSIPPI—New Oil Field									
Jefferson Davis	Gwinville	Gulf's D. L. Mullins 1, c nw ne 34-9n-19w, 2½ mi sw of Gwinville gasser.	8-15-44	12-18-44	9433	9223-9252	Tuscaloosa sd; Cre.	F 840; 1/4"	40	Ant; refl, seis.	Est 2,000,000 bbls reserve.
		MISSISSIPPI—New Gas Field									
Claiborne	Bruinsburg	Sun's W. R. Hammett A-1, 2-11n-1w	10- 1-44	11-29-44	2324	935- 945		F 5 mln; 1/2"		SD; seis.	Est 500,000,000 cu ft gas.
		MONTANA—New Oil Field									
Carbon	Clark's Fork	General Petroleum's Government 1, nw nw 25-9s-22e		12-15-44	6531	-6160	Frontier sd.	F 200	48		
		NEW MEXICO—New Oil Fields									
Eddy		Martin Yates Jr.'s A. A. Kaiser 1, ne nw nw 29-18s-27e, 1½ mi e of prod.	3-27-44	12- 4-44	1483	1395-1483	Grayburg; Perm.	P 8			Unimportant; headed briefly after nitro shot.
Lea	Dublin	Humble's Leonard-Federal 1, c sw sw 12-26s-37e, 2 mi s of nearest reg Perm prod.	7-21-43	12-31-44	11969	11890-11928	Ellenburger dolo; Ord.	F 221,34/64" wtr.	48.9	Ant; geop.	Prod fr near bottom of comparatively thick pay, thus accounting for wtr; higher perf likely. Area involves deep-seated structure, and is 1st Ellenburger prod for state.
Lea	Skaggs, Deep	Continental's J. Skaggs 2-B-23, c sw nw 23-20s-37e, 7/8 mi se of Monument fld, nearest prod.	1-30-44	12-20-44	10465	7700-7725	Wolf Camp (Abo) sdy li; Perm.	F 269 .15 mln 3/4"	42.3	Ant; geop, geol.	Basal Permian discov logged 655 ft Simpson in entering granite at 10,430 ft, thus eliminating Ellenburger, prime objective; 55 ft pay; 1st Abo prod for state; 6700-ft Clear Fork rated as good prod bet, but not tested.
		OHIO—Oil Field Extension									
Perry	Clayton	Preston Oil Co.'s Cookson-Adrian 1, sec. s		12-12-44	3356	3318-3356	Clinton sd; Sil.	F 60 S 18			3/4 mi e extension.
		OKLAHOMA—New Oil Fields									
Garvin		Skelly's Rakestraw 1, se sw se 4-4n-3e, 4½ mi se Byars		12-10-44	3401	2490-2500	Sd; Penn.	F 280	38	Ant; sub seis.	Looks lie important Pennsylvanian sd strike in area of only small prod so far.
Lincoln		J. W. Sorrels' Sukovaty 1, sw sw se 15-14n-3e, 2½ mi sw Chandler pool.		12-22-44	4043	4003-4010	Prue sd; Penn.	F 25, 5/64" wtr.	42	Sml ant; sub.	May develop as fairly good pool unless structure too limited. Prue sd good producer; est recovery of 2500 bbls per ac.
Pawnee		Sunray's Ryan 1, sw se nw 33-21n-6e, 3 mi s Valley		12- 1-44	3338	2727-2740	Bromide sd; Ord.	P 26	34	Str trp; seis.	Unimportant; may cover 240 acres.
		OKLAHOMA—New Oil Pay									
Cleveland	S. Moore	Helmerich & Payne's Brand 1, ne se sw 26-10n-3w		12-10-44	9219	7742-7772	Bartlesville sd; Penn.	F 670; 1/4"	34	Ant; seis.	One of year's largest completions; dry in Wilcox, opens new possibilities for pool in shallower Bartlesville zone. If structure ties into Harp well, 19-10n-2e, area will cover apprx 2000 prod acres with 20,000,000 bbl reserve.
		OKLAHOMA—Oil Field Extension									
Kingfisher	W. Edmond	Anderson-Prichard's Collett 1, cse nw 25-15n-4w, 2 mi nw W. Edmond pool.		12-16-44	7283	7030-7040	Bois D'Arc li; Devo.	F 102, 25 wtr		Str trp; dr	Proves apprx 100 more acres for W. Edmond; 1st comre prod in county.
		EAST TEXAS—New Oil Fields									
Van Zandt		Texas Co.'s J. F. Stout 1, 660 ft out nwc of 169-ac lse, or 3050 ft ne of sw and 1600 ft se of nw lines N. T. Dickerson sur.	9-13-44	12-29-44	8161	8150-8157½	Rodessa sdy li; L. Cre.	F 25, 11 wtr; 4/64"	44	Ant; geol.	1st Rodessa prod for county. 2500 ft n by w of Texaco's 9116-ft Travis Peak failure, which by-passed oil saturation in Rodessa, then lost hole in pb. Pay comparatively thin for this depth.
Wood		Bobby Manuel's V. L. Evans 1, 660 ft out nwc of 53.8-ac lse, 800 ft snl and 1800 ft wel of J. Stark sur.	10- 8-44	12-17-44	6100	4860-4944	Sub-Clarksville sd; U. Cre.	P 32	26.2	Flt ant; geol.	Not important; crude yield per ac fr Sub-Clarksville rarely profitable.
		LOWER TEXAS GULF COAST—New Oil Field									
Karnes	Falls City	Southern Minerals Corp's Joe F. Bartosch 1, 467 fr nw&swl 171-ac tr, Louis Manahaca sur A-5.		12-28-44	4711	4651-4654½	Pettus sd; Eoc.	F 59.6, 67.7 wtr 4/64"	45.6		Unimportant; probably 60,000 bbls reserve.
		LOWER TEXAS GULF COAST—New Gas Fields									
Bee		W. Earl Rowe's Mrs. Nona Berry Davis 1, start sly cor 1000-ac lse, go 4500 n alg swl th 1320 e at rs to lcn in Bee Co. Sch Land sur 12.		11-24-44	4225	3773-3781	Pettus sd; Eoc.	F 126 mln; open			Single-well reserve 2,000,000,000 cu ft gas. 6500 ft n Yougeen fld.
Victoria	Anaqua	Gulf's Mary Simmons 1, 2234.8 fr nwl 886.7-ac lse, 4500 nely fr San Antonio River.	9-24-44	11- 7-44	6334	5350-5358	Vicksburg sd; Olig.				Single-well reserve 2,080,000,000 cu ft gas.
		LOWER TEXAS GULF COAST—New Oil Pay									
Brooks	Kelsey	Shell's Guaranty State Bank 2, 1980 fr el 660 fr sl GC&SF sur, 721 and of 640-ac tr, 2177 e of No. 1.		12-18-44	6407	6395-6407	Vicksburg sd; Olig.	F 205.5; 4/64"	45.3		Single-well reserve 560,000 bbls.
		UPPER TEXAS GULF COAST—New Oil Fields									
Chambers	Mayes	Humble's M. E. Mayes 1, 4000 fr el 330 fr sl W. Bryan sur, 4173.5-ac lse, 10,365 s sw Mayes 1, gas well.	9-12-44	12-24-44	9994	8166-8169	Frio sd; Olig.	F 752, 0.2% wtr.	41.8	D; refl, seis.	Single-well reserve 600,000 bbls.

Chambers	Mayes	**UPPER TEXAS GULF COAST—New Oil Fields** Humble's M. E. Mayes 1, 4000 fr sl 330 fr wl W. Bryan sur, 4173.5-ac lse, 10,365 s sw Mayes 1, gas well.	9–12–44	12–24–44	9994	8166–8169	Frio sd; Olig.	F 752, 0.2% wtr.	41.8	D; refl, seis.	Single-well reserve 600,000 bbls.
Colorado	Sublime	Tidewater's D. L. Underwood 1, 574 fr nely line 887 fr sely line 218.90-ac lse, Miguel Muldoon sur 39.	7–12–44	12– 6–44	9990	9500–	Wilcox sd; Eoc.	F 79.2, 0.1% wtr, 1.4 mon; $\frac{5}{32}$"	48.8	Ant; Refl, seis.	Single-well reserve 800,000 bbls.
Wharton	Lane City	General Crude's Security Bk&Tr Co. 2, 2725 fr nel 290 fr sel lot 7 blk 103 in bend of Colorado River, 450 n of river, S. Castelman sur 5.	9–22–44	11–24–44	5772	5341–5351	Frio sd; Olig.	F 124, 0.1% wtr; $\frac{1}{8}$"	26.1	Ant; Refl, seis, sub.	Single-well reserve 200,000 bbls.
		UPPER TEXAS GULF COAST—New Gas Field									
Wharton	Louise	Texas Co.'s C. D. Bergstrom 1, 660 fr nl 1980 fr el sec 37, 1 mi n nw Continental's Louisa C. Peterson 1, dry hole, WCRR sur 37 OWDD.	orig abnd 9– 3–44	12–19–44	4510 otd 5286	4122–4128	Frio sd; Olig.	F 8 mln	.....	Ant.	Single-well reserve 1,280,000,000 cu ft gas.
		UPPER TEXAS GULF COAST—New Distillate Fields									
Colorado	Rock Island	Sinclair's C. G. Glasscock 2, 4500 e of wl 2500 s of nl Collier sur A-148, 10,000 n&e of No. 1.	6–24–44	12– 9–44	10518	9274–9280	Wilcox sd; Eoc	F 120, 4.9 mon.	51	D, refl, seis.	Single-well reserve; gas 3,200,000,000 cu ft, distillate 68,800 bbls.
Matagorda		Skelly's Granbury-Fullilove 1, 660 fr sel 330 fr nel 40-ac unit 64, 660 fr sel Amos Rawls Lge A-81.	8– 9–44	11–15–44	10010	8739–8747	Frio sd; Olig.	F 42, 2.1 mln.	51	N; refl, seis.	Single-well reserve; gas 3,200,000,000 cu ft, distillate 320,000 bbls.
		UPPER GULF COAST—New Oil Pays									
Ft. Bend	Blue Ridge	Gulf's Invincible Oil Co. 12, 1650 fr wl 2855 fr nl 500-ac lse, Thos. Hobermaker sur A-191, 737.9 e se No. 11.	11–15–44	12– 3–44	4177	3830–3845	Sd; Olig.	F 104, 4.0% wtr; $\frac{5}{32}$"	31.4	.....	Single-well reserve 960,000 bbls.
Hardin	Sour Lake	Sun's Merchant Est. 1, 330 fr nl 1632 fr wl Minerva-Merchant 200-ac subdivn c lot 79 125-ac lse, Stephen Jackson Lge.	8–22–44	11–17–44	6590	6335–6365	Cockfield-Yegua sd; Eoc.	F 132; $\frac{3}{4}$"	29.3	D; Flank, Dr.	Uncertain; next well should define importance.
Wharton	Daboval	Sinclair's Stovall 1, nwc se¼ sec 72, John Bagnall sur, e offset Amerada disc well dual comp.	.....	12–23–44	7312	5497–5506	Frio sd; Olig.	F 147; $\frac{3}{4}$"	27	.....	New upper pay sand. Single-well reserve 250,000 bbls.
Wharton	Hillje	Texas Co.'s Emily A. Weatherer 2, 660 fr s&wl sec 100 3960 s of No. 1 dry hole, ne flk Hillje fld, L. P. Ogden sur.	10–29–44	12–20–44	7500	6538–6544	Frio sd; Olig.	F 52.18, 0.2% wtr; $\frac{1}{8}$"	46	.....	Add est 960,000 bbls to reserve.
		UPPER TEXAS GULF COAST—New Gas Pay									
Chambers	N. Winnie	Sun's Rosa Arens 1, 330 fr n&wl blk 12, F. Valmore sur, 1275 n nw Dougherty's disc well.	6–25–44	12–13–44	10075	9840–9890	Frio sd; Olig.	Fsml.amtcond, 48 mln; $\frac{1}{8}$"	52.3	.....	Gas reserve est 6,000,000,000 cu ft; distillate 60,000 bbls.
		NORTH TEXAS—New Oil Fields									
Archer	.....	Geo. W. Cooper's Fred Daume 1, sw sw se S. P. Ry. sec 1, 1A-422; 1⅛ mi sw Cooper pool's 4900-ft Bend, 1⅝ mi ne Holliday deep strawn.	11– 6–44	12–12–44	4077	4070–4077	Strawn sd; Penn.	F 660; $\frac{1}{2}$"	42.8	Ant; geol.	Small feature with lenticular sd pay in Strawn; within cluster of failures.
Clay	.....	Bradley-Suddath's J. Moser 1, 150 ft snl and 1050 ft wel of w 70 ac of s½ blk 74, Parker CSL sur, 2 mi e of s end Petrolia shallow field.	11– 4–44	12– 2–44	309	299– 305	Cisco sd; Penn.	P 4	34	Gran rdg; geol.	Unimportant, though similar pools in area yield 3000 bbl per ac under close spacing.
Clay	.....	Anderson-Prichard Oil Corp's R. O. Wood 1-A, 990 ft out nec sec 12, MEP&P Ry sur A-339, 4 mi sw Petrolia shallow gas fld, nearest prod.	.....	12–12–44	6672	5935–5930	Bend li; Penn.	F 379; $\frac{5}{8}$"	41.8	Ant; geol.	Involves deep dip on sw flk of Petrolia granite uplift; probably forerunner of series of small deep pools. Another oil pay indicated at 6022-33 ft.
Cooke	.....	Texas Co.'s Fainseville National Bank 1, 330 ft out of nec 510-ac lse, or 1500 ft nsl and 7500 ft wel of Thos. W. Ward sur A-1089 1 mi nw Walnut Bend fld's Strawn prod.	10–13–44	12–11–44	5727	5409–5485	Ellenburger dolo; Ord.	F 331; $\frac{1}{2}$"	.....	Ant; geol.	Involves higher Ordovician structure than nearby Walnut Bend fld, and separated by failure. Prod area to be small
King	.....	Ohio Oil Co.'s W. R. Ross 1, 1980 ft snl and 330 ft ewl sec 24, R. B. Masterson sur A-1163.	.....	12–12–44	5257	5236–5257	Strawn sd; Penn.	F 1320; $\frac{1}{2}$"	36.9	Ant; geop	Important; no dry holes of equal depth near. Pay same as deepest of 2 oil zones in Bateman fld, 9 mi w by n.
		NORTH TEXAS—New Oil Pays									
Clay	Howard	Phillips' W. I. Howard-Vera 1-a, 1370 ft wel and 330 ft nsl blk 44, J. T. Belcher subdiv, ½ mi sw 5400-ft Bend discovery.	6– 9–44	12–13–44	6035	5803–5821	Mississippian li; Miss.	P 76.65, 1 wtr.	41.3	Ant; geol.	Unimportant; subnormal prod for this depth.
Cooke	Sivells Bend	Texas Co.'s I. Beasley 1, 660 ft snl and 665 ft wel of 200-ac lse, or 7020 ft nsl and 1920 ft wel of J. McKerley sur, A-639, ⅞ mi w by s of 6755-63 ft discovery.	11– 6–44	12–31–44	6904	6817–6863	Strawn sd; Penn.	F 416; $\frac{1}{2}$"	43.6	Ant; geol.	Logged fld's discovery pay zone in Strawn higher but dry. Pay thickness and prod of this deeper sand forecast important fld.
		SOUTHWEST TEXAS—New Gas Field									
Starr	.....	George Irving's M. M. Garcia 1, 1650 fr sl 330 fr el tr 215, porc 90, 140-ac lse.	.....	12–17–44	3520	3288–3292	.....	F 57 mln; $\frac{1}{8}$"	.....	.....	Single-well reserve 2,000,000,000 cu ft.
		WEST CENTRAL TEXAS—New Oil Pays									
Coleman	E.Silver Valley	States Oil Corp's R. M. Burroughs 1, se sw se HT&B Ry 3, blk 1, 1400 ft nw wc gasser in same zone.	11– 5–44	12– 8–44	2852	2821–2840	Morris sd; Penn.	F 37; $\frac{3}{4}$"	43	Ant; geol.	3¾ mi se nearest oil prod. This natural producer missed gas zone in Morris sd; small but attractive pool in prospect.
Stephens	Leeray	Woodley Pet. Co.'s G. W. Thorpe 1-B, 467 ft out of swc ne¼ sec 456, SP Ry, sur.	10–10–44	12–15–44	3990	3745–3820	Mississippi li; Miss.	F 45, 40°/wtr; 2"	40.7	Ant; sub.	Unimportant; this oil zone not present in nearby decisive tests.
		WEST TEXAS—New Oil Field									
Lamb	Anton	Humble's J. A. Jackson 1, c ne nw sec 119, blk A, R. M. Thomson sur, w mi ne Anton; 13 mi n by e Smyer 5900-ft pool, nearest prod.	4–11–44	12–21–44	7191	5360–6050	Clear Fork li; Perm.	P 223, 111 wtr.	29	Ant; geop.	Most nly prod in Permian Basin, near apex deep-seated granite ridge, extending e-w; possibly opens new prod trend. No Ordovician encountered. Prod fr series of thin streaks of saturation.
		WEST TEXAS—New Oil Pay									
Andrews	Fullerton	Magnolia's B. B. Ralph 3-11, 801 ft out of sec PSL sec 11, blk A-37, offsetting 7100-ft prod.	8–22–44	12–18–44	3150	3050–3150	Yates sd; Perm.	P 28	41	Ant.	Shallow pumper, drilled for gas to fuel rotary rigs. This zone unimportant though accounting for a small gasser ⅝ mi se.
		WYOMING—New Oil Pays									
Fremont	Steamboat Butte	British American's Tribal E-4, ne se nw 5-3n-1w	.....	12–11–44	5173	4495–5173	Lakota sd; U. Cre.	F 450	.....	.....	.....
Park	Fourbear	Honolulu Oil Corp.'s Unit 3, sw nw se 20-48n-103w	.....	12–13–44	3060	2875–3060	Tensleep sd; Perm.	F 400	.....	.....	Fld first prod 15 yrs ago.
Park	Oregon Basin	Ohio Oil Co.'s Samuels-OPC W-13, nw nw nw 32-51n-100w	.....	12–18–44	4672	3914–4672	Madison sd; Perm.	P 240, 0.1% wtr.	.....	.....	Fld heretofore prod from Embar-Tensleep.

[1] Character of producing formations abbreviated thus: ch, chalk; dolo, dolomite; li, limestone; sd, sandstone; sh, shale, ser, serpentine; cgl, conglomerate. Ages of formations abbreviated thus: Pleis, Pleisocene; Mio, Miocene; Olig, Oligocene; Eoc, Eocene; U. Cre, Upper Cretaceous; L. Cre, Lower Cretaceous; Jur, Jurassic; Tri, Triassic; Perm, Permian; Penn, Pennsylvanian; U. Miss, Upper Mississippian; L. Miss, Lower Mississippian; Devo, Devonian; Sil, Silurian; Ord, Ordovician; Cam, Cambrian.

[2] Barrels of oil per day (24 hr. rate), flowing (F), pumping (P), swabbing (Sw), or bailing (B); or million cubic feet of gas daily open flow capacity; size of choke given in inches. [3] Type structure abbreviated as follows: Ant, Anticline; D, Dome; Fld, Fold or Folded; Flt, Fault or Faulted; M, Monocline; N, Nose; SD, Salt Dome; Str trp, Stratigraphic trap; Syn, Syncline; Ter, Terrace. [4] Method of discovery abbreviated as follows: cd, core drilling; dr, drilling; geol, geology; geop, geophysics; grv, gravity meter; ran dr, random drilling; seis, seismograph; sub, subsurface geology; sur, surface geology.

Veteran Re-Employment Mutually Beneficial

Oil companies among others giving close study to problem and plan to put former workers and others as well on jobs

OIL companies are showing themselves alert to the problem of absorbing disabled war veterans back into former employment or into new jobs. A number of companies had announced definite plans before any veterans returned from the service. Others took steps to meet the condition as it has arisen, and are perfecting their procedure as individual cases have to be handled.

In spite of the fact that the first responsibility for vocational adjustment and rehabilitation of ex-service men and women falls on the Veterans Administration, in Washington, industry is finding that it must share heavily in this responsibility.

How carefully companies have planned reemployment programs is shown by a survey on "The Employment of The Handicapped Veteran," made by the Policyholders Service Bureau of the Metropolitan Life Insurance Company, New York. The survey gives the plans of 54 leading companies in the United States, and is available to executives, upon request as long as the supply lasts.

Most companies, as the survey shows, are eager to deal more generously with their own employes discharged from the armed forces, and especially those who have suffered handicaps, than required by the selective service law. Former employes are taken care of first, but companies also want to extend their program to as many other veterans as they can absorb.

With the larger companies, the broad lines of reemployment policy are being made centrally, that is by the management, but details of how the policy is to be effected are left to the various operating units.

Oil Company Policy

As an example of oil company activity on behalf of veterans, the plan of Standard Oil Company (New Jersey) is included in the survey. Highlights of the plan follow:

"The board of directors, on May 29, 1944, issued to the presidents of domestic subsidiary companies and to heads of departments the circular letter stating the company's policy regarding reinstatement of employes discharged from the armed forces for physical disability. This memorandum emphasizes:

"That every possible consideration be given disabled returning veterans.

"That every effort be made to place him in the operation by which he was originally employed or, if not readily available, to secure employment for him in other phases of the company's operations.

"That if he is not physically qualified for his former job or an equivalent position, but is physically qualified for a position requiring additional training, the employe should be offered such a position on a training basis at the established rate paid other employes assigned to this position.

"That all operations review existing jobs to determine those which may be performed by the handicapped and training courses be designed to facilitate upgrading in positions opened to the handicapped."

Would Utilize New Skills

A few days later this communication was followed by one from Standard's then president, R. W. Gallagher, addressed to department heads, expanding and re-emphasizing the memorandum from the board. Gallagher said, in part:

"Every possible effort should be made to utilize skills or qualities which have been acquired in military service and which may be of value to the organization as a whole. If it is not possible to take advantage of these acquired skills in the operation to which the employe reports, his record should be forwarded through proper channels so that consideration may be given to them in other phases of the company's operations. It would seem that files of these records should be established so that these employes may be given later consideration even though no openings are available currently. The same procedure would apply in the event a returning veteran is suffering from a disability acquired in service which precludes his employment in the operation to which he is returning but is not sufficient to bar his employment in some different activity.

"The readjustment of reinstated war veterans, particularly disabled veterans, merits careful review, and I suggest that there be provision for a follow-up on individual performance during at least the first six-month period by means of a personal interview followed by a review of each case by management.

"The foregoing comments stem from my sincere conviction that the company's responsibility for employes serving the armed forces does not end with their discharge and the fulfillment of the provisions of the military service policy. I believe that unless we insure that these employes who have served their country are properly reinstated in the organization in a position which makes adequate use of their abilities, the company will not have done its fullest part in the war effort."

Creating special jobs for handicapped veterans is not advised, except in instances where the old job cannot be filled because of the handicaps acquired. Emphasis is placed rather on fitting the veteran as closely as possible into the type of work he formerly did. One company has stated this as a fundamental policy. In a memorandum to all division heads, this company says:

"As a general policy, the management feels that we should make every possible effort to re-employ and place handicapped servicemen on jobs which they can do productively and with the greatest financial return to themselves. This means that they must do 'necessary jobs.' Any attempt to make a job for a handicapped man will not work out satisfactorily for him or for the company. This, of course, does not preclude the possible rearrangement of a job and a reasonable period for the man to break in. When we place a handicapped man successfully, he ceases to be handicapped from the standpoint of his productive ability and his earnings."

Physical Handicaps

How much do physical defects impair working capacity? This is a primary question that concerns those planning reemployment of veterans. It has been answered in part by the New Jersey Rehabilitation Clinic. A report by Dr. Henry H. Kessler, former medical director of the Clinic, notes that "A man's capacity to work is not the result of his anatomical make-up. His native ability, his personality, and his training all contribute to his productivity. In an examination of more than 100,000 accidental injuries for the New Jersey workmen's compensation bureau, it was rare for a man to change his occupation even in instances where a functional disability as high as 75 percent of total work capacity was estimated."

This statement has been further verified by the handicapped themselves, according to the survey, both in their employment during the war and in prewar days. Arma Corporation, for instance, in mid-July, 1944, employed a total of 169 handicapped persons with the following defects:

Orthopedic		Organic	
Arms	10	Heart	21
Legs	18	Hernia	33
Feet	24	Hypotension	24
Hands	2	**Eyes**	
Back	7	Blind	6
Mental		One eye	9
Nerves	4	Poor sight	31

"Steadying Influence"

These handicapped workers are a steadying influence in their departments, it is reported. "They value their jobs more than does the normal worker; they are absent less; their turnover rate is lower; they waste less time getting about the water fountain, talking, etc. Their production equals that of the normal worker."

The Office of Vocational Rehabilitation, Federal Security Agency, asked more than 100 employers, most of them executives of large corporations engaged in the manufacture of war materials, to submit reports showing how their physically handicapped workers compared with their able-bodied in four respects—absenteeism, labor turnover, accident rate, and productivity. Their findings were:

SUBJECT	Percent of Employers Reporting		
	Lower for Handicapped	Same in Both Groups	Higher for Handicapped
Absenteeism	55	40	5
Labor turnover	83	16	1
Accident rate	57	41	2
Productivity	10	66	24

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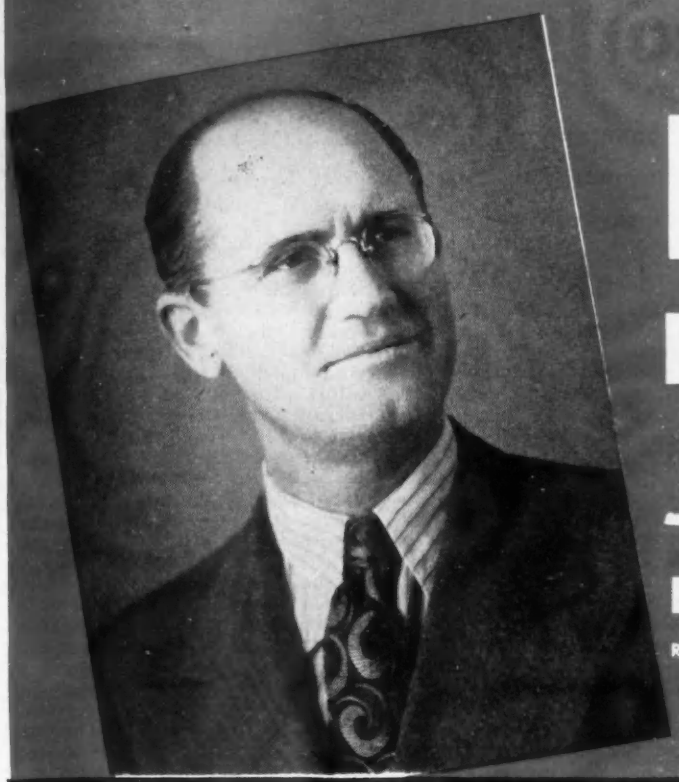


E. A. (PHAT) MILLER

REED OKLAHOMA DIVISION MANAGER

for

FASTER-STRAIGHTER FULL GAUGE HOLE

No need to use the wrong jetting action with Reed Rock Bits. Just tell the Reed man your requirements and he will install the correct slush nozzle "At the Rig"—on delivery.

Be assured of correct cleaning action on the cutter teeth and order Reed Rock Bits—There is a Reed **Replaceable** slush nozzle with the correct jet size to meet your circulation requirements.

The Mud Nozzle is easily replaced. Various sizes of jets may be had to accommodate any mud pump capacity.

Reed

ROLLER BIT COMPANY

HOUSTON 1, TEXAS, U. S. A.

Pipe Line Trailer Serves All Needs

Tamper-proof unit built by Pacific Coast company is designed to meet all peculiar requirements of pipe line work. Cost is written on in savings

BUILT especially for the varied and special requirements of the pipe line department, a two-wheel steel panel trailer recently was designed by that division of one of the major Pacific Coast oil companies.

Its highly compartmented all-welded body sections provide maximum storage space for the many types of tools that must be carried in the field, but with no sacrifice in accessability. An ingenious locking system permits the securing of all sections with but one padlock, and all this is combined with a degree of portability that makes it a most valuable unit in the field.

The rectangular steel body was mounted on an automotive type trailer and provided with a sturdy pipe drawbar tongue, the latter fitted with a collapsible support on the front to hold the unit erect while set up in the field. An L-shaped sliding section of pipe may be pulled out of a recessed shelf in the rear of the body and when placed in a vertical position serves to hold the trailer upright, preventing it from toppling backward should the center of gravity be shifted too far. It is turned up through 90 degrees and slid back under the edge of the body when the unit is being moved.

Space Arrangement

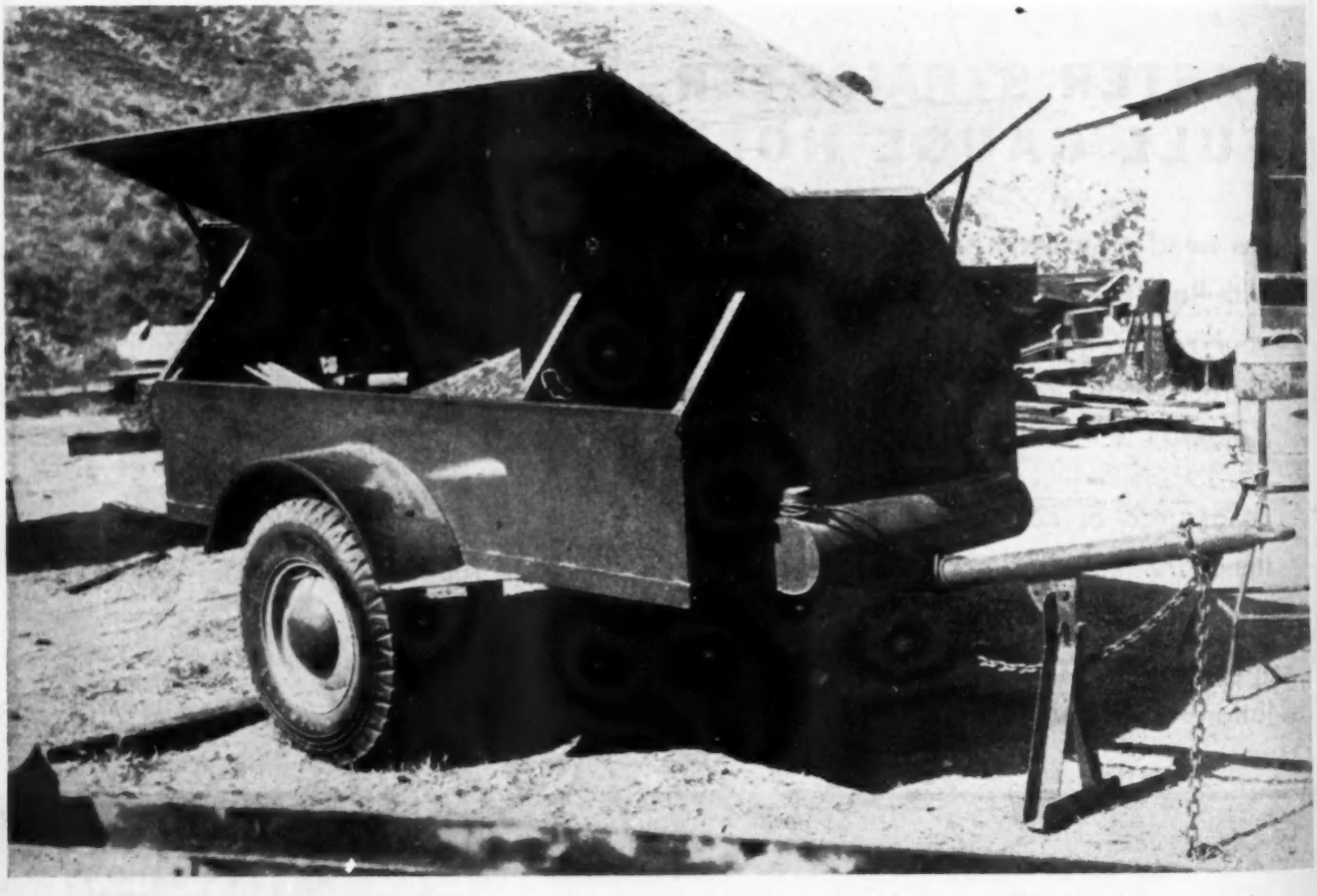
The body assembly measures approximately 8 feet long by 5 feet wide, and at its highest point—from the base up to the flat ridge-pole section—it is 38 inches high.

It consists of three major compartments, two large ones on either side and a small narrow one which extends down the center through most of the length of the trailer. The two side compartments are in turn sub-divided, making a 6- and 2-foot long compartment on each side. Height of the side paneling above the compartment flooring is 19 inches. The interior of the larger sections is fitted with racks, shelves and pins for saws, wrenches, socket sets, levels, surveying instruments, record books and other miscellaneous items. The shorter 2-foot wide partitioned section in the forward end of the unit may be used for such items as hatchets, stakes, lines, and miscellaneous dirty fittings that may be required in general field work. The narrow center compartment is 11 inches wide and is divided into several shelves in which are kept shovels, axes, dissembled picks, crowbars and similar long-handled tools.

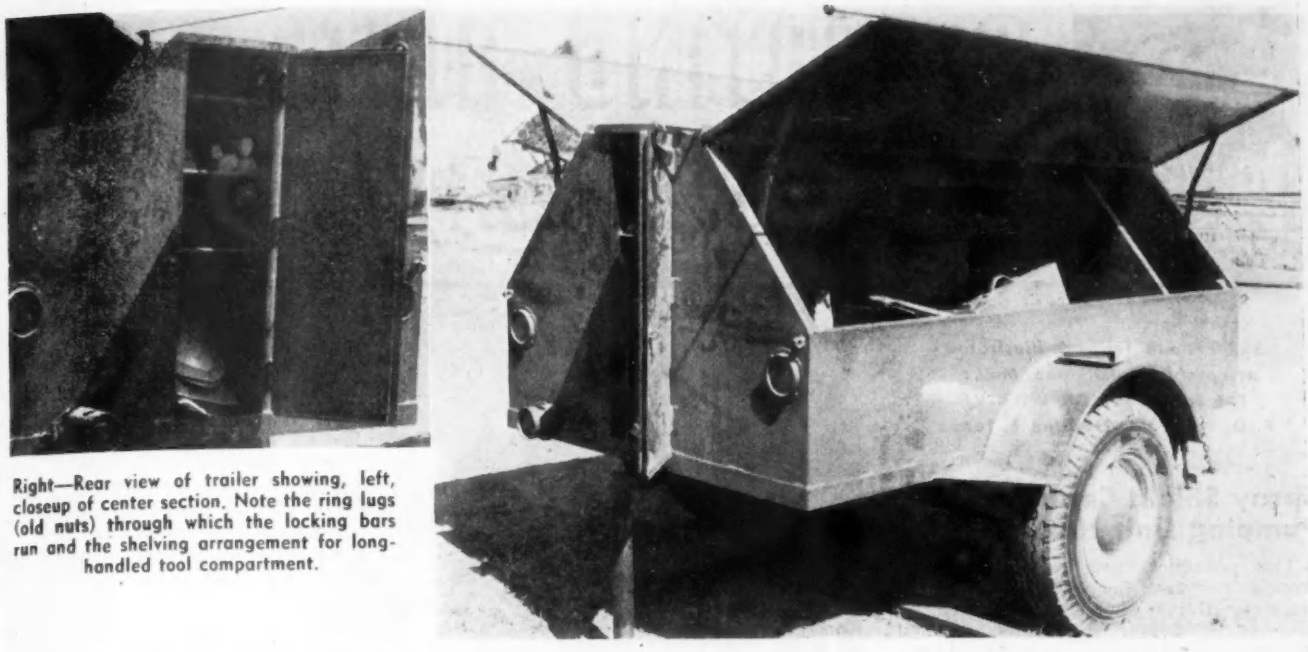
Locking System Is Tamper-Proof

Outstanding features of this well-designed trailer body are its tamper-proof construction and ability to lock up all sections with but a single lock, coupled with lightness and with no sacrafice in rigidity. Principal strengthening members of the body are lengths of angle iron which form the corner sections and to which the sheets of siding are welded, forming a stiff one-piece construction. The edges of the sloping side covers are stiffened with lengths of light angle iron and are so placed that one side of the angle overlaps the corresponding edge of the body, protecting the interior from weather and discouraging use of sharp instruments by vandals in attempting to gain entrance to the tool sections.

The locking system is ingenious in its simplicity and positive action. Welded to the longitudinal edge of each of the two side covers is a length of ¾-inch pipe through which is slipped a round steel bar several inches greater in length than the cover itself. The rear-pointing end of each bar has a steel ring welded to it, while the other end is slightly tapered. The latter end, when the cover is closed, slips through a steel



Front view of two-wheel steel panel trailer which provides maximum of convenience and storage space. It is virtually tamper-proof.



Right—Rear view of trailer showing, left, closeup of center section. Note the ring lugs (old nuts) through which the locking bars run and the shelving arrangement for long-handled tool compartment.

ring lug welded to the side of the panel at the forward end.

Locking the Panels

Similar in-line lugs are welded to the back panel of the body in such a position that when the two long longitudinal rods are shoved into the locking position, these end rings lie alongside similar ones. Their centers are lined up in such a manner that when all panels are closed, including the rectangular door to the pick-shovel compartment, another shorter steel bar, pointed and equipped with a ring as the others, may be slid into place along the face of the back panel. This completes engaging all the ring lugs and the single padlock is slipped through the end ring, through the ring of the right compartment rod, and locked in place. This securely locks all compartments, no steel rod being removable unless and until the padlock is removed.

Mounted on the front of the trailer body is a 3-foot cylindrical tank of approximately eight gallons capacity which contains cleaning solvent, the fluid being drained out through a petcock on the bottom. The triangular angle-iron stand which supports the front end of the trailer when the latter is unattached to the truck, may be locked in either the down or folded-back position simply by shifting a pin which is run through paired holes in a quadrant welded to the bottom side of the trailer tongue. The covers on the large side compartments are held in the open position with jackknifing brackets similar to those in automobile luggage compartments. Tail light wiring is permanently installed with an extension cord available for connecting into the truck's system when moving along the highway.

The cost of constructing the unit is being written off through definite savings realized in the field work. Its use permits the field truck to be detached from the job early in the day to go to other jobs with the assurance that the first crew will have ample tools and equipment. In most instances, the trailer may be safely parked on the lease job over night with no fear of pilfering of small hand tools.

In the current period of shortages in both labor and rolling stock, such a unit will pay off in more ways than merely convenience and saving of field labor.

Memphis Natural Gas Asks Suit's Dismissal

The Federal appellate court in New Orleans, Louisiana, has been asked by Memphis Natural Gas Company to dismiss a suit by the State of Louisiana which seeks to block plans of the gas company to pipe an increased gas flow from northern Louisiana to Memphis, Tennessee. The company's petition asking permission from the Federal Power Commission to take more gas from the Louisiana fields was denied last July. Later, in November, the Federal Power Commission reversed its decision however, and permitted construction of facilities to handle the increased taking of gas.

The motion for dismissal of the suit was on the grounds that the Memphis firm, a Delaware corporation, is domiciled outside of the states making up the fifth court circuit, and that the Louisiana Department of Conservation and also the Louisiana Public Service Commission are not "aggrieved parties" under terms of the natural gas act.

Coast Group Elects

Officers for 1945 were elected by Western Asphalt Association as follows: J. R. Keane, president; J. R. Pemberton and R. M. Blodgett, vice presidents; C. W. Powell, treasurer, and Frank L. Mark, managing engineer, all of Los Angeles. Directors named were: S. M. Griffith, A. F. Brough, Keane and Powell of Los Angeles, and G. R. Daley, San Diego.

Ras Tanurah Oil Refinery Reported Near Completion

A 50,000-barrel refinery being built at Ras Tanurah, on the Persian Gulf north of the island of Bahrein, is reported nearing completion. Arabian-American Oil Company which is owned half and half by Standard Oil Company of California and The Texas Company, is owner of the refinery. A refinery which the company owns on Bahrein is being enlarged at the same time, and a pipe line is being laid to carry oil from the Arabian mainland to the island.

This work is a part of the program of both British and American interests to develop their properties in the Middle Eastern area. The British are said to be seeking American steel to double the capacity of the pipe line leading from fields in Iraq to Haifa on the Mediterranean coast. A refinery at Haifa is to be improved also, by the British, if supplies can be obtained.

Pittsburgh Company Will Acquire Other Properties

The Federal Power Commission last week announced that it had authorized Manufacturers Light and Heat Company, a new corporation with principal offices in Pittsburgh, to acquire and operate the properties of Manufacturers Light and Heat Company (a predecessor), Greensboro Gas Company, manufacturers Gas Company, Pennsylvania Fuel Supply Company and Fayette County Gas Company, formerly subsidiaries of the Columbia Gas and Electric Corporation.

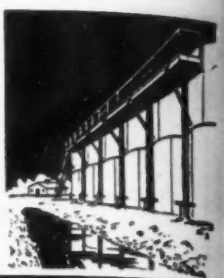
The commission also approved the new company's proposals to eliminate from its gas plant accounts a net total of $21,335,726 in excess over original cost of the Greensboro Gas and Manufacturers light and heat properties.

Reclassification and cost studies of the other companies have not been completed, but it is estimated that downward adjustments of $2,028,777 will be required.

☆

ROY D. McANINCH, geologist, and H. E. Thompson, landman for Stanolind Oil & Gas Company, are in charge of newly opened geological and land departments in the First National Bank Building, Oklahoma City.

OPERATING HINTS *For Production Men*



$5.00 is paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, P. O. Box 2608, Houston 1, Texas

Spray Shield Controls Pumping Unit Hazard

The possible hazard of fire in or around unitized deep-well hydraulic pumping units is largely eliminated by efficient removable fire walls installed by the production department of one company. Driven by multi-cylinder engines, the pumping units are shielded from the hot exhaust pipe and engine head by a metal shield lowered by an overhead pulley system into the narrow space between the two units. Amply shielding the danger area, the sheet is supported by a sucker-rod edging which provides legs extending to the flooring as well as giving rigidity to the shield

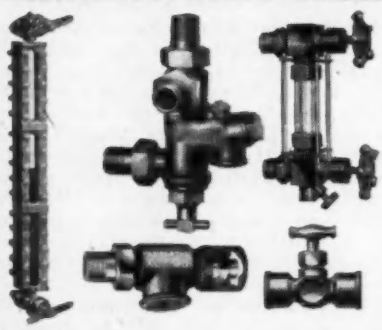
PUMPING SAFETY

Diversion unit between engine and pump intercepts high-pressure oil in case of line break.

itself. A light line attached to loops on the upper edge of the shield is always in reach of the pumper when he services the units at regular intervals.

Because of the extremely high pressures developed in this type of pumping unit, a tiny leak which might develop in the piping system would atomize the oil and could soon spray a large amount of highly-inflammable fluid about the hot engine parts. The shield serves the purpose of baffling any such leaks until the pumper comes back on his next round of inspection.

PENBERTHY
QUALITY PRODUCTS



Penberthy liquid level gages of various types—injectors—ejectors—all so widely used throughout the oil industry because they have always been dependable under the most severe service conditions.

All are of rugged construction and made by an organization with 57 years experience in the manufacture of quality products.

PENBERTHY INJECTOR CO.
DETROIT, MICH. Canadian Plant WINDSOR, ONTARIO

Bailer Dump Stand Speeds Clean-Out Jobs

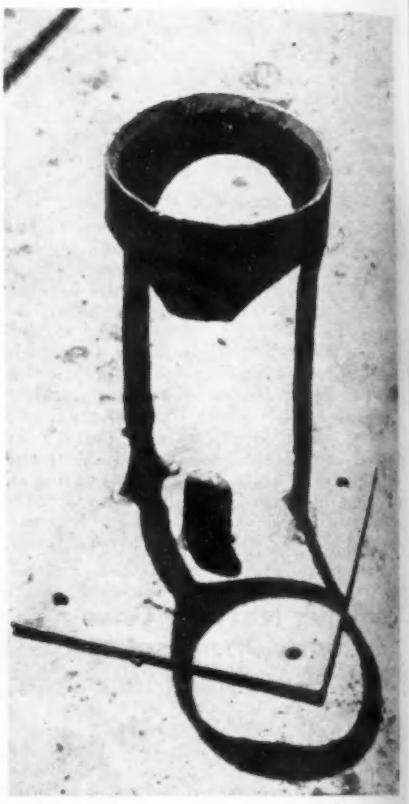
Instead of relying on makeshift methods commonly used by many production crews for dumping the bailer on or just below the derrick floor, one foreman makes up small devices which may be nailed to the derrick floor or to a heavy piece of planking, should dumping below the floor or elsewhere be desired.

CLEAN-OUT EQUIPMENT

The device consists of a vertical 15-inch length of 7-inch pipe with most of its sides cut out, leaving the upper ring end intact and the legs welded to a square flat piece of sheet steel, as shown in the photograph. A short nubbin of steel welded to the center of the base plate aids in centering and holding the bottom of the bailer in place.

The upper edge of the device is tapered on the inner side to minimize chances of the bailer catching as it is set down. Built entirely of salvaged materials, the dumping frame may be set up at any desired point merely by nailing it to a plank, using the four small holes drilled in the corners of the base plate.

In the device illustrated, one of the three legs has been cut away to facilitate getting at the latch by which the bailer is dumped, but that feature may be modified to suit the type of equipment being used on the job.



Ring and tripping spud on portable base enable dumping to be done at most advantageous location.

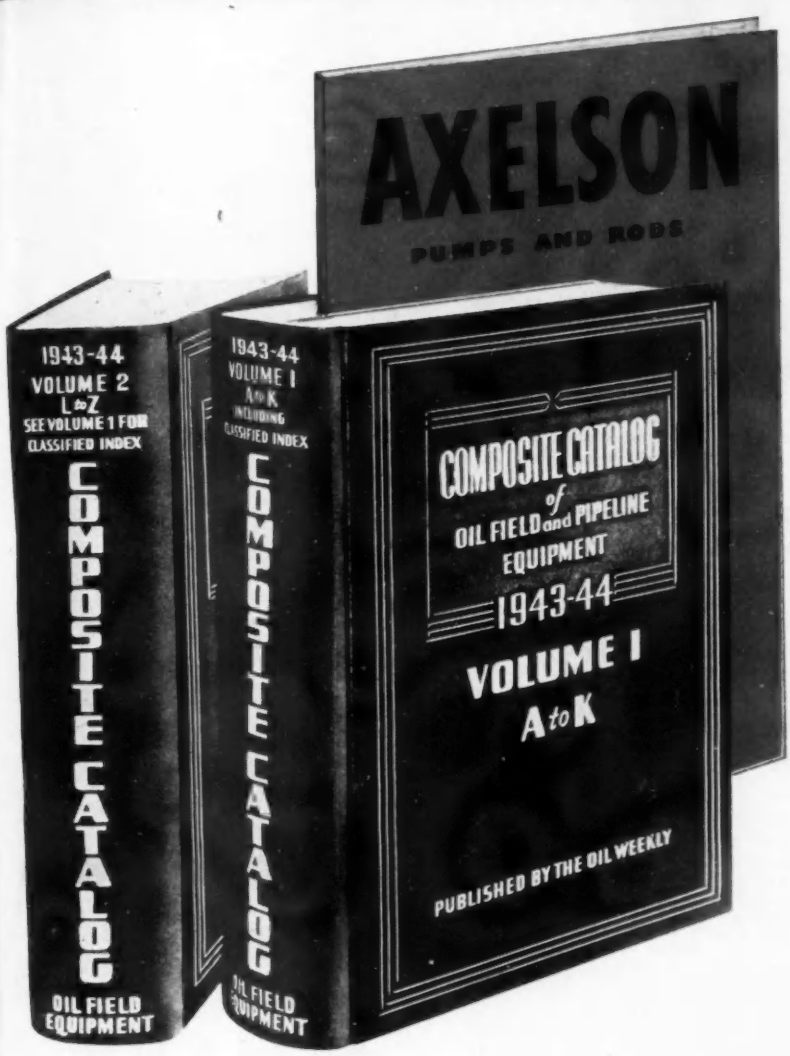
Specially-Rigged Wrenches Reduce Tubing Work-Overs

Speed in breaking out or running in a string of tubing depends in a great degree upon the rigidity of the lower of the two joints. If the joint held in the slips is kept solidly gripped, free from even a slight amount of turning, a snappier and more effective pull may be obtained, with consequent increased speed of operation. The foreman of one production crew accomplishes this by utilizing an old principle, that of anchoring the wrench with a back-up. In this case a 4-foot chain and one wrench are kept for that one purpose. Each end of the

RUNNING TUBING

CHECK THE 1943-44 COMPOSITE CATALOG FOR FACTS ABOUT AXELSON..

World's Most Complete Line of Deep Well Pumps



SOLVE all your pumping problems by informing yourself and your firm about the World's finest line of Pumps and Rods.

Turn to Pages 225-248 of current COMPOSITE CATALOG, 1943-'44 and you will find twenty-four pages describing the Axelson oil field products.

Axelson Manufacturing Company has a pump to give satisfaction under any condition met in any oil field in the world. Fifty years of improvement based in the widest possible experience is your guarantee of satisfaction.

Axelson Sucker Rods, like the company's pumps, are manufactured of tried and true metals alloyed to meet maximum strains. They are of uniform strength from end to end, designed to meet every test.

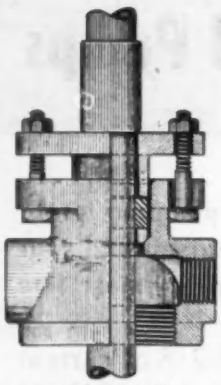
Turn to the Axelson section in COMPOSITE CATALOG and get the facts for production of more barrels at less cost.

AXELSON

DEEP WELL PLUNGER PUMPS

AND SUCKER RODS

ALTEN
Screw Type
STUFFING BOX
CASING HEAD



ONE OF OVER 300 ALTEN OIL FIELD PRODUCTS

Fig. A-106

See Composite Catalog for complete list or write us for catalog.

ALTEN'S
FOUNDRY and MACHINE WORKS
Established 1889 LANCASTER, OHIO
Leading Supply Stores Carry
All Alten Oil Field Equipment

BE SURE TO CHECK THE
TRADING POST SECTION
ON PAGE 69 OF THIS ISSUE

KEEP YOUR WELL CONTROL and COMPLETION OPERATIONS OUT OF THE RED . . .

BROWN OIL TOOLS INC.
BOT
HOUSTON TEXAS

Call BROWN
Houston • Corpus Christi • Lake Charles
New Iberia • Houma

chain is equipped with a small hook, one end being hooked through a small hole in the skid base of the pumping unit, while the other end is hooked through a 2½-inch ring permanently looped through the end of the wrench.

It takes but a few seconds to throw the wrench on the lower joint, take a "trial" pull on the upper joint to tighten the chain, following which the men can bend their combined efforts to the one upper wrench in breaking out the joint, instead of dividing their efforts between two wrenches. No only is this speeding up the crew's work, but their daily work load is lessened. In addition, smaller wrenches may be used, usually with few occasions when "snipes" are needed.

Welded-in link and short section of chain with hooks enables crew to set back-up wrench and thus to speed tubing handling without requiring manipulation of separated tools.

Fuel Heater Reduces Freeze-up Line Clogging

Where wet gas tends to freeze up the regulator and cut off the low pressure fuel from the pumping engine, one operator provided a simple heater which raised the temperature of the stream enough to prevent the formation of hydrates or drop in temperature sufficient to form frost on the outside of the line.

GAS FUEL CONTROL

The heater consists of a horizontal run of 6-inch pipe, with a burner in the outer and open end and the other blanked off, with a 2-inch stack welded some 3 inches from the closed end. Around this flue is set a vertical section of 6-inch pipe, its top blanked off to form a tank about 2 feet high. Into one side of this the incoming gas line is connected, the outlet being set opposite.

To heat the gas, the burner is lighted, and the gas flow sent through the hot vertical section. The entire unit is warmed by heat transferred to its base from the horizontal burner section, while the inside of the gas stream is heated by contact with the vertical flue.

The degree of heat imparted to the gas depends upon the rate of flow through the device, the amount of fire carried, and outside temperatures.

Burner and riser around gas main add heat to suppress formation of line hydrates.

Clean Out with a MILLER Sand Pump

Refer to Composite Catalog page 1907 for description and prices.

Miller Sand Pump Co.
P. O. BOX 4516
OKLAHOMA CITY 9, OKLA.

Continued Decline in Fuel Oil Stocks Brings 'Go Easy' Warning from Ickes

A continued decline in fuel oil stocks was noted during the past week, bringing the warning from Petroleum Administrator Harold L. Ickes that consumers of this product should avoid excessive consumption that will deplete stocks too rapidly.

"For the remainder of the heating season, meeting home-heating oil demand will be strictly touch-and-go," Ickes emphasized. He added that although fuel oil supplies are tight, they still are sufficient to meet current rationed demands. The problem is complicated by stepped-up military requirements which place a further burden on American refiners.

The drop of 1,867,000 barrels in total stocks of residual fuels came in spite of a gain of 125,000 barrels in production of gasoil and distillate. Stocks of these products declined by 1,888,000 barrels, slightly more than the drop in residual fuels. Production of residual fuels was also below last week's figure, by 99,000 barrels.

In explaining the constant drain on residual fuel stocks it was pointed out by PAW that the military uses such fuel in submarines, tractors, bulldozers and other equipment. In addition, the increased demands for aviation gasoline and other war products require larger quantities of distillate for use as charging stock in refineries, thereby cutting the quantities available for manufacture of fuel oil.

In spite of a decline of 333,000 barrels in the output of gasoline, total stocks increased during the week, 1,198,000 barrels, due perhaps to weather conditions throughout the country, unfavorable to driving and also to a temporary decline in the use by the military forces on account of bad weather in the main theater of operation on the Western front.

Daily average crude production was up 44,000 barrels, most of which was from western Kansas.

Total refinery operations were 93.1 percent of capacity, as compared with 94.9 percent the week before, reflected by a drop in crude run to stills of 86,000 barrels.

Compared with a year ago, the following percentages show the industry status at this time: Production of crude oil, up 8 percent; crude run to stills, up 8.8 percent; stocks of crude oil, down 7.5 percent; production of gasoline, up 12.1 percent; stocks of gasoline, up 12.5 percent; production of gasoil and distillate, up 1.7 percent; stocks of gasoil and distillate, down 8.1 percent; production of residual fuel, up 8.1 percent; stocks of residual fuel, up 1.2 percent.

Punitive Demurrage to Be Charged Delayed Tank Cars

Punitive demurrage charges will be imposed on tank cars not speedily returned to the railroads, under orders of the Office of Defense Transportation which will go into effect January 22.

Applying to all cars, whether owned, leased or controlled by railroads or private companies, the order cuts from 48 to 24 hours the free time for which a loaded tank car may remain at any point of destination, and provides for a demurrage charge of $11 per day for the first five days and $22 per day thereafter, Sundays and holidays included.

Laboratory Projected To Test Heating Fuels

A laboratory for testing domestic heating fuels will be constructed by Socony-Vacuum Oil Company, Inc., at 412 Greenpoint Avenue, Brooklyn, and will be in operation by early spring.

The laboratory will be a one-story, three-room building and will have the necessary facilities for studying the practical performance of fuel oils in commercial burners. Emphasis will be on adaptation of the newer refining processes for the production of fuel oils which will perform economically and satisfactorily in present and postwar burners.

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod. Barrels Daily	Crude Oil Prod. Week Ended	Runs to Stills Barrels Daily	Runs to Stills Week Ended	Crude Stocks Barrels	Crude Stocks Week Ended	Gasoline Stocks Barrels	Gasoline Stocks Week Ended	Gasoil and Distillate Stocks Barrels	Gasoil and Distillate Stocks Week Ended	Residual Fuel Oil Stocks Barrels	Residual Fuel Oil Stocks Week Ended
Highs:												
1941	4,337	11-22	4,120	10-18	266,187	3-29	99,727	3-29	[1]54,983	11-15	102,448	1- 4
1942	4,337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	47,861	11-14	95,857	1- 3
1943	4,436	11-13	4,331	12- 4	245,752	5-29	94,159	3-20	47,187	11-27	72,881	1- 2
1944	[1]4,762	9-30	[1]4,798	12-30	240,992	1- 1	89,162	4- 1	48,863	10-28	64,644	10- 7
Lows:												
1939	[2]1,601	8-26	3,125	2-18	[2]229,127	10-12	71,152	10- 7	20,722	4-15	105,397	4- 8
1941	3,364	1-11	3,490	1-18	240,399	11-15	79,923	10- 4	28,382	4-12	90,914	7-12
1942	3,297	7- 4	3,393	5-23	231,896	12-12	75,934	12- 5	29,240	4-25	72,962	12-26
1943	3,821	1- 9	3,579	3-13	232,191	1- 9	68,182	10-16	30,732	4- 3	57,596	12-25
1944	4,357	1- 1	4,228	2-12	[4]220,623	9- 9	76,302	1- 1	30,232	4-29	49,737	3-18

TRENDS OF 1943 AND 1944

Trends in Week Ended:	Crude Oil Production Daily	Crude Oil Runs to Stills Daily	Crude Oil Stocks Week End	Gasoline Production Weekly	Gasoline Stocks Week End	Gasoil and Distillate Production Weekly	Gasoil and Distillate Stocks Week End	Residual Fuel Production Weekly	Residual Fuel Stocks Week End
1943:									
January 2	3,871	3,734	233,938	10,957	82,420	4,285	42,913	7,683	72,881
January 30	3,826	3,698	233,863	10,339	88,830	3,888	37,057	7,452	70,763
February 27	3,873	3,709	235,217	10,566	93,157	4,230	32,939	7,839	70,140
March 27	3,896	3,742	239,126	10,231	94,079	3,541	30,980	8,018	67,938
April 24	3,913	3,737	242,035	10,583	91,001	3,954	31,142	8,168	67,455
May 29	3,970	3,679	245,752	10,656	83,937	3,798	32,274	7,672	67,682
June 26	3,955	4,015	242,657	11,092	79,589	3,876	34,044	8,126	67,960
July 31	4,133	3,788	238,420	11,127	74,977	3,765	36,363	8,478	66,877
August 28	4,196	4,227	236,170	12,420	72,525	4,351	37,928	8,732	67,250
September 25	3,344	4,156	233,013	12,206	70,024	4,608	40,328	8,560	66,659
October 30	4,383	4,176	247,219	12,813	69,297	4,642	44,591	7,968	63,833
November 27	4,414	4,261	239,761	12,638	69,980	4,379	46,187	8,633	62,143
December 25	4,363	4,185	241,310	12,597	74,024	4,457	43,791	8,689	57,596
1944:									
January 1	4,357	4,453	240,992	13,192	76,302	4,575	42,310	9,141	57,330
January 29	4,409	4,359	240,251	13,427	81,085	4,054	37,266	8,889	52,857
February 26	4,423	4,377	237,137	13,183	85,248	4,558	33,766	8,952	51,387
March 25	4,385	4,443	236,285	13,362	87,287	4,979	31,319	9,013	51,669
April 1	4,383	4,435	234,667	13,824	89,162	4,450	30,530	8,367	51,326
April 29	4,431	4,300	235,342	13,126	88,462	4,284	30,236	8,398	49,985
May 27	4,514	4,532	234,423	13,502	86,468	4,702	32,035	8,568	49,812
July 1	4,587	4,638	228,860	14,052	83,559	4,496	35,360	8,872	52,235
July 29	4,608	4,627	225,112	14,115	82,665	4,833	38,135	8,900	56,280
August 26	4,667	4,698	222,931	14,112	80,740	4,566	41,453	8,680	59,839
September 30	[1]4,762	4,775	222,393	14,494	78,028	4,622	45,329	9,292	64,226
October 28	4,740	4,658	223,235	14,117	79,058	4,772	48,705	8,285	64,382
December 2	4,712	4,693	221,591	14,853	80,426	4,082	45,832	8,981	61,727
December 9	4,704	4,552	220,258	14,611	80,880	4,056	44,436	8,923	60,458
December 16	4,695	4,537	222,075	14,145	82,747	4,353	42,413	8,727	59,280
December 23	4,729	4,682	222,575	14,635	83,355	4,605	40,846	8,798	58,509
December 30	4,705	[1]4,798	222,998	15,342	86,614	4,257	39,495	9,156	57,430
January 6	4,678	4,656	220,331	14,472	86,616	4,533	38,298	9,092	56,074
January 13, 1945	**4,722**	**4,570**		**14,139**	**87,814**	**4,408**	**36,410**	**8,993**	**54,267**
January 15, 1944	**4,372**	**4,202**	[5]238,148	**12,612**	**78,043**	**4,336**	**39,603**	**8,321**	**53,579**
Change:									
In week	+44	—86	—2,667	—333	+1,198	+125	—1,888	—99	—1,867
In year	+350	+368	—17,817	+1,527	+9,771	+72	—3,193	+672	+628
In year	+8.0%	+8.8%	—7.5%	+12.1%	+12.5%	+1.7%	—8.1%	+8.1%	+1.2%

[1] All time peak. [2] Lowest between January, 1922 and July 1, 1944. [3] Lowest since October, 1922, due to shutdown of six Mid-Continent states. [4] Lowest since December, 1921. [5] Stocks, January 8, 1944.

International Developments

Richmond Exploration Gets Concession in Venezuela

A second group of oil concessions, covering approximately 1,000,000 acres in the Orinoco River delta area, state of Monagas, has been issued by Venezuela to Richmond Exploration Company, subsidiary of Standard Oil Company of California. A short time ago Richmond obtained other concessions on 1,750,000 acres on the west side of Lake Maracaibo. The concessions total 4300 square miles.

All the concessions, H. D. Collier, president of Standard Oil Company of California, explained, which cover exploration, exploitation and drilling, are under the Venezuelan law of 1943.

Exploration in the Monagas region is expected to be difficult since the area is tropical and partly inundated. Geophysical work will be done by means of shallow draft boats, similar to military landing barges.

Exploration is to start as soon as equipment can be moved in.

Oil Revenue Exceeding Venezuelan Estimates

Budgeted estimates of national revenue volume for 1944 in Venezuela were exceeded by more than 50 percent as a result of a 90 percent increase in the rate of petroleum production by the end of the year. Receipts for the third quarter of 1944 alone amounted to 127,000,000 Bolivares (at 31c), derived almost entirely from royalties, taxes and other fees charged against operations of oil companies. For this year ending next July 1, it is estimated that revenue from petroleum concession grants will amount to 80,000,000 Bolivares, exclusive of production royalties.

Socony Is Drilling Wildcat In Barinas, Venezuela

Socony-Vacuum Oil Company is drilling a wildcat on the north side of the Apure River, in Barinas, Venezuela, due south of the town of Libertad. The well, San Vicente 1, was spudded during the second week of December, with surface pipe set to 470 feet. On January 3 drilling had progressed to 1505 feet.

This well is the company's first test in its huge concession block in the Apure basin, which is generally expected to be the next "hot" development area in Venezuela. Sinclair Prairie Oil Company and Shell interests also have large holdings in the Apure River area, comprising most of the state of Barinas and the northern part of Apure.

Wildcat Being Drilled On Sinai Peninsula

Standard Oil Company of Egypt is drilling a wildcat near El Nekhl, in the center of the Sinai Peninsula, 85 miles southeast of Suez. Spudded early in November, drilling had progressed to 3160 feet by the end of December. The well is being drilled on a surface structure involving Cretaceous strata, and is to be a test of the Nubian Sandstone section and other possible pay zones in the Carboniferous and lower series.

Test drilling in the Sinai area is somewhat simpler than in the Red Sea graben block to the west, where most of the drilling in Egypt has been carried on in the past. The thick Miocene section that is present as a fill above the Mesozoic rocks in the graben is not present to the east and west of the block. In addition, geological and geophysical explorations furnish much more conclusive evidence of structure outside the graben boundaries.

Production Is Restored In Ukraine Oil Fields

Production has been restored in the several small fields of the western Ukraine, east of the city of Kiev. The fields at Rommy, Poltava, Drogobych and Borislavl were reported to have exceeded output quotas during the last four months of 1944, with a total of more than 280 wells in operation. Several small refineries are also in operation in the area, according to Soviet advices.

Saratov Gas to Be Piped To Moscow's Industries

Russia has formed a department of construction that will begin immediate laying of 587 miles of gas trunk line from new fields in the Saratov district to Moscow for industrial and domestic needs.

Plans call for the completion of the line by the end of this year. The line will cross nearly 100 streams and lakes. There will be six compressor stations along its route and two distributing plants at terminals in the Moscow area. It has been announced that the capacity of the line will be 500,000 cubic meters daily, using 10-inch pipe.

County Bay Oil Company To Build 7-Mile Line

County Bay Oil Company is surveying right-of-way for 7 miles of 3-inch crude oil gathering lines from its line at the center of the SE¼ 25-18s-3w, to a point at the SE NW 6-19s-1w, in the Jenday pool of McPherson County, Kansas. Construction will be company supervised.

5½-Mile Line Being Built From Lone Star Pool

Tom G. Shaw, Fort Worth operator, is building a 5½ mile, 2-inch crude line from the Lone Star 3-well pool, Cherokee County, Texas, to the Pleasant Grove area, where connection will be made with The Texas Pipe Line Company's East Texas trunk line system.

The 187-barrel daily allowable of the Lone Star pool is being trucked to the East Texas field at the expense of the producer.

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SYLVESTER P. KELLY, formerly assistant director of the ODT railway department at Washington, D. C., has been named assistant refinery traffic manager for Cities Service Oil Company at Bartlesville, Oklahoma.

Residue Can Be Used for Carbon Black, Firms Say

Claiming that more than 100,000,000 cubic feet of residue, wet and low pressure gas, much of which is now being wasted, can be used to make carbon black in Oklahoma without drawing from the sweet gas of the Hugoton gas pool, four natural gas companies have filed exceptions to a recent order of the Oklahoma Corporation Commission granting a permit to Cabot Carbon Company to erect a channel process carbon plant near Guymon. A hearing is set for January 23.

Protesting against the order, issued in November as an emergency war measure at the request of the federal government, were Cities Service Gas Company, Magnolia Petroleum Company, Panhandle Eastern Pipe Line Company and Northern Natural Gas Company. All have holdings and pipe lines from the Hugoton pool and utilize gas for industrial purposes in the mid-continent area.

The firms claim they will introduce new evidence, including a survey by Phillips Petroleum Company, to show that Cabot need not use Hugoton sweet gas but can draw upon residual gas from other sources for the proposed carbon black plant, which will have a capacity of 30,000,000 cubic feet daily.

An order authorizing Charles Eneu Johnson & Company to purchase and utilize additional natural gas from Magnolia Petroleum Company wells in the Fitts pool of Pontotoc County, Oklahoma, to manufacture carbon black by the channel process, has been issued by the Oklahoma Corporation Commission. The order was for the duration of the war and six months thereafter, and was based on military needs for black to be used in the manufacture of tires.

FPC to Act on Kansas and Texas Pipe Line Projects

The Federal Power Commission has scheduled a Washington hearing February 12 on applications of the Consolidated Gas Utilities Corporation, Oklahoma City. The firm is seeking authority to construct an additional 400-horsepower compressor unit at its Pitsch station in Wheeler County, Texas; 2½ miles of 6⅝-inch pipe line in Cowley County, Kansas, to connect with its 6-inch line, and about 14,550 feet of 7-inch line in the same county to interconnect its isolated system northeast of Winfield, Kansas, and its main system running from Wheeler County to Lyons, Kansas.

The commission also has announced a hearing in Washington March 2 on an amended petition by the Central Illinois Public Service Company, Springfield, Illinois, for an order directing Panhandle Eastern Pipe Line Company to extend its facilities to establish a connection with the petitioner's distribution system at Mattoon and to sell it sufficient gas to meet its requirements in that and other communities in eastern Illinois.

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G. H. SCOTT has been named general manager of North Venezuelan Petroleum Company, with headquarters at Caracas, Venezuela.

J. L. TATUM has resigned his position with Plymouth Oil Company, Sinton, Texas.

U. S. Field Operations

Oklahoma

West Edmond Extended Five Miles by Classen Well

Classen well extends West Edmond pool 5 miles south; new oil strike near Sparks; gasser reported north of Garber; big gas area looms in Cimarron County; offset to North Hobart discovery tests salt water.

West Edmond: Phillips Petroleum Company et al's Classen 1, CNW SE 11-12n-4w, wildcat southeast of Bethany in Oklahoma County, apparently extended the West Edmond pool another 5 miles almost due south. It tested between 8 and 10 barrels of fluid an hour, 50 percent oil and 50 percent mud and drill water from the Bois d'Arc section of the Hunton after 184 shots through casing opposite 7154-7200 feet. The well started to heave when tubing was being run. Gas was estimated at 3,000,000 cubic feet a day. The test was dry in the Viola lime and Wilcox sand. Geologists believe the well will connect with the West Edmond pool, now considered to extend 18½ miles north and south and 3½ miles east and west. Another important Hunton lime trend play is Sohio Petroleum Company and Big Chief Drilling Company's Hayes 1, NE NE SW 8-11n-4w, 4 miles southeast of the Classen well.

Lincoln County: Midstates Oil Corporation opened a new area near Sparks when Barnes 1, CSW SE 19-13n-5e, was completed as a 50-barrel daily pumper from the Prue sand at 3640-55 feet. The oil tested 44-gravity.

Garfield County: North of the Garber pool Cities Service Oil Company apparently established gas pay at Mariner 1, NW NE NW 6-22n-3w, when it tested about 10,000,000 cubic feet of dry gas from the Wilcox. Production was from 4980-5010 feet. First Wilcox was topped at 4886 feet. Three unsuccessful drill stem tests were made with the hole at 5002 feet, total depth, when it was deepened to 5010 feet. The well is contracted to drill to the Arbuckle lime but was shut in awaiting orders.

Cimarron County: The Pure Oil Company's Rose 1, SE NE SW 26-5n-8ecm, northeast of Keyes, tested 20,000,000 cubic feet of gas from the 4700-foot horizon after a plug-back from 5550 feet, total depth. Since the Rose is about 5 miles north of nearest gas production, it looks as if an important new gas area has been opened in the Oklahoma Panhandle.

North Hobart: Operators were puzzled by the performance of Pure's Hinton 1-B, SW NW NE 10-7n-7w, a 10-acre east offset to the new pool's discovery well completed New Year's Day, With Pennsylvania sand topped at 1785 feet and drilled to 1812 feet, drill stem test recovered 250 feet of water and 20 feet of oil-cut mud. Hinton 1, which opened the area in north Kiowa County, tested 60 barrels of oil an hour through tubing choke from sand at 1728-56 feet.

Okmulgee County: Mid-Continent Petroleum Corporation's interesting wildcat for new producing horizons in the old Morris pool, Daniels 9, NW NW SE 12-13n-13e, was drilling below 3585 feet, headed for the granite with no shows reported. Formation tops logged Booch at 1164 feet, Fields 1714 feet, Mississippi 2134 feet; Chattanooga shale 2345 feet, Viola lime 2414 feet, Wilcox 2640 feet, and Arbuckle lime 2735 feet.

Oklahoma County: Gulf Oil Corporation was still trying to make Beck 1, SW SW SW 15-14n-2w, wildcat east of the Northeast Edmond pool, a producer although previous tests in the Wilcox showed salt water. Crews were preparing to acidize the Hunton, where pipe was perforated opposite 5824-47 feet. Swabbing showed a slight oil recovery. Southeast of Edmond, Fox & Fox's Lister 1, SW NW NW 6-13n-2w, ran electrolog to 6782 feet and reported hard, tight Wilcox sand and it looks like a failure.

Cleveland County: O. G. Harp's Mattheson 1, NE NW NE 19-10n-2w, 2 miles east of Moore and northeast of the South Moore pool which had a spectacular showing on initial test and then went dead, has been cleaned out and is waiting on orders at 7633 feet, corrected depth. The well flowed at the rate of 350 barrels of oil an hour and then bridged at 7599 feet. There was a report the test would be carreid to the Wilcox sand. Production was from the Bartlesville zone.

Stephens County: The Carter Oil Company abandoned Frensley 1, NE NE 12-1n6w, wildcat near the Cruce gas area, at 6298 feet. Formations showed a 90-degree dip. Final cores cut between 6213-23 and 6288-98 feet recovered black shale and sand streaks with no shows.

Secondary-Recovery Bill Considered in Oklahoma

Representative J. H. Arrington of Stillwater, Oklahoma, chairman of the house oil and gas committee in the Oklahoma legislature, is preparing legislation to set up a secondary-recovery authority composed of five members nominated by organizations and representing leading branches of the oil industry and appointed by the governor.

The authority would be financed from the proration fund and would employ engineers who would recommend fields where secondary recovery might prove successful. Operators in such pools would be called in and if they and half the royalty owners agree, then secondary recovery plans would be put into effect. The proposed legislation is receiving strong support from oil operators and land owners in Oklahoma.

Wells Completed in United States in Week Ended January 20, 1945

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS *Oil	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	Cumulative: This Year	Last Year
Alabama									1	1	1	1	2	
Arkansas	1			1	2	1			2	2	5	6	11	6
California	64				64	1			7	7	72	42	151	87
Colorado									1	1	1	2	3	2
Florida													1	
Georgia													1	
Illinois	27			9	36	5	1		6	7	48	11	108	78
Indiana	1			1	2				2	2	4	6	14	18
Iowa														1
Kansas	4			3	7	2			8	8	17	28	72	108
Kentucky	5	1		1	7				3	3	10	7	35	36
Louisiana	8	1		4	13		4		3	7	20	14	54	27
North Louisiana	1	1		1	3		1		2	3	6	4	20	6
South Louisiana	7			3	10		3		1	4	14	10	34	21
Michigan												10	42	33
Mississippi	7				7				4	4	11	4	26	3
Missouri									3	3	3	2	5	
Montana												3	7	15
Nebraska														3
New Mexico	5			2	7	1			2	2	10	20	39	21
New York											25	25	75	57
Ohio	3	1		1	5						5	12	20	45
Oklahoma	25	1		8	34		2		4	6	40	49	128	78
Pennsylvania	27	3	15	1	46						46	46	139	126
Tennessee														2
Texas	73	4	5	28	110	2	6	2	34	42	154	130	381	254
E.Tex.Bor. Co.'s												2	2	
Rest of E. Texas	1				1						1	6	16	15
North Texas	14	1	5	12	32		1	1	7	9	41	29	99	54
W. Central Tex.	2	1		1	4				3	3	7	6	15	18
West Texas	27			3	30						30	27	95	66
Panhandle	1			5	6	2					8	13	22	9
G. Coast, Upper	12			4	16		2	1	5	8	24	8	40	21
G. Coast, Lower	12	2		2	16		1		6	7	23	26	59	47
Southwest Texas	4			1	5				4	4	9	8	27	21
S. Central Tex.									1	1	1	5	6	3
West Virginia	2	9		1	12						12	13	34	54
Wyoming									1	1	1	3	7	9
Total U. S.	252	20	20	60	352	12	11	2	73	86	475	434	1,355	1,063

* Includes distillate wells. † Includes salt water disposal wells.

Kansas

First Strikes of New Year Registered in State

Year's first strikes reported in Kansas; new areas in McPherson and Phillips Counties; Skinner NW gets new pay zone; Hugoton gas zone shows water; Finney County wildcat prospects dim.

McPherson County: Bay, Westgate & Greenland's Myers 1, NE NE NW 7-19s-1w, opened the Jenday South pool when it tested 301 barrels of oil daily from Mississippi chat at 2928-3013 feet. Nearest production is nearly a mile south and the strike is credited with being the first oil discovery in Kansas this year.

Phillips County: Six miles east of the Ray pool, Skelly Oil Company's Thayer 1, SEc NE 34-5s-19w, tested 25 barrels of oil in 12 hours on the pump from Lansing lime perforated and acidized between 3375-83 feet. Testing continues.

Stevens County: Cities Service Oil Company was plugging back in Koch 1, CSW 33-34s-35w, test in the Hugoton gas area, in attempts to shut off salt water encountered in the lower section of the field's gas-producing zone. The well was drilled to 2858 feet and tested about 6,000,000 cubic feet of gas from Krider and Winfield sands at 2701-2812 feet with water showing in the base of the Winfield.

Ford County: The Texas Company's Thomas 1, SE SE NW 33-27s-23w, interesting wildcat which may give the county its first oil production, set pipe at 6054 feet and was preparing to test zones in the Viola, Simpson and Arbuckle zones. Samples from the first two formations had good stains and electrolog showed a "kick" in the Arbuckle.

Barber County: Sinclair Prairie Oil Company's Oldfather 1, CSE 7-31s-14w, in the Skinner NW pool, established physical potential of 221 barrels of oil and 72 barrels of water daily after acidizing Arbuckle lime between 4554-61 feet. The pool is a Viola lime producer and the test marks the first new pay find in Kansas this year.

Illinois Basin

Madison County, Illinois, Pool Is Given Extension

Rockhill Oil Company and others have extended the Marine pool of Madison County, Illinois, a mile northeast at Becker 1, NW SW SE 3-4n-6w. On initial pump test, the well yielded 52 barrels of oil in 24 hours from Devonian lime at 1770-75 feet, the latter figure total depth.

Coles County: The growing Mattoon pool became more interesting with prospects of good production at Anthony J. Keating's Uphoff 7, SW NW NW 25-12n-7e, on the south line of the pool's production. The well swabbed 150 barrels of oil in 24 hours from Aux Vases sand at 1985-2000 feet.

White County: Ashland Refining Company and N. V. Duncan's Aud 1, SW NW NE 27-6s-9e, apparently has given the Herald area a new pay horizon. Casing has been set for test of McClosky lime at 3007-17 feet, which showed recovery of 3000 feet of oil in a 1-hour drill stem test. Present producing horizons are the Aux Vases and Cypress sands.

Edwards County: Tidewater Associated Oil Company's Van Schoick 2, SE SE SW 18-1n-10e, in the Bennington pool, has been re-acidized in the McClosky lime at 3222-40 feet. After the second acid treatment, the well made 40 barrels of oil per hour through ½-inch choke.

Richland County: The Texas Company's Fritschle 1, SW NE NW 24-4n-10e, a projected northeast extension of the Wright pool, appears to be dry. A slight show of oil was found in McClosky at 3081-3090 feet.

Indiana

Central States Oil Company apparently has a small producing discovery at Blackburn 1-A, SW SW NW 20-6s-13w, in Posey County. The well filled 100 feet with oil in 17 hours from Pennsylvnaia sand saturation encountered at 1105-10 feet. Operators are placing the well on pump.

Michigan

Traverse Lime Test Rated Possible Field Discovery

Smith Petroleum Company's Kellam 1, SW NE NE 33-8n-4w, Clinton County, showed 600 feet of oil in Traverse lime at 2549 to 2565 feet for a possible field discovery. Casing will be set for a production test. The outpost is 4 miles north of a small Traverse lime pool in Dallas Township.

Arenac County: Walton and Stewart's Koziak 1, NW NW SW 15-19n-4e, ½ mile southeast extension bid in the Deep River pool, logged Dundee objective at 2780 feet and was abandoned at 2860, probably closing off any additional extension work on that end of the pool.

Proration: Deep River pool in Arenac County was further cut back from 200 to 150 barrels per well per day on January 16 by a State proration order following a public hearing. It was the third cut since mid-1944, based on continued reservoir pressure declines.

The state also applied proration for the first time to the Coldwater pool in Isabella County at a record initial low of 75 barrels per well per day. The figure was recommended by Sohio Petroleum Company, principal owner of both developed and non-drilled leases in the pool.

West Texas

New Level Established Near Crossett Field

Andrews test proves considerable acreage near Fullerton field; new oil level established near Crossett field; Crockett County well flows from Ellenburger; Cochran County deep test to try for production in Devonian; commercial production indicated in test near Fort Stockton.

Andrews County: Magnolia Petroleum Company's Bitler-Lowe 1-C, C NW SE PSL 23, Block A-26, and ¾-mile northwest of production in the northeast sector of the Fullerton field, proved considerable acreage in flowing 810 barrels of oil with gas-oil ratio of 876/1 through ½-inch choke after acidizing Clear Fork broken pay at 6745-7115 feet.

Magnolia Petroleum Company's University 1-D, C NW SW Sec. 11, and a southeast outpost, pumped 73 barrels of oil and 65 barrels of water initial after acidizing broken pay at 6910-83 feet, having plugged back from 7296 feet. The field has comparatively few pumpers. Frankel Brothers et al's University 1-D, C NW NW Section 22, and 1⅛ miles southeast of production, was abandoned in water at 7245 feet, being the first failure within or near the structure.

Crane County: The Texas Company's Hobbs 3-B, 1⅛ miles north by west of Devonian production in the Crossett field, flowed 221 barrels 42-gravity oil and 51 barrels of water initial through open tubing after acidizing through perforations at 3190-3210 feet, establishing new oil level for area. Hobbs 3-B recorded a sharp rise in structure, and in face of this favorable situation did not indicate production other than the Upper Clear Fork in drilling to Ellenburger at 6565-6710 feet.

Crockett County: Continental Oil Company et al's Todd 12-B, C NW SW GC&SF Ry. 28 and fourth well in the Todd field to indicate production in the Ellenburger, flowed 132 barrels of oil on 2-hour gauge through ¾-inch choke after using 1000 gallons of acid through Ellenburger perforations at 6265-6325 feet. This proflific zone has been sealed off to perforate near top of Ellenburger, while the field's regular 5900-foot Crinoidal has not been tested. Earlier, Ellenburger wells were sealed to permit completion in the Crinoidal, but it is now apparent that the Ellenburger is sufficiently important to start twin drilling. Dual completions have been avoided because of excessive paraffin accumulation from the Crinoidal, which rates high on ultimate crude yield per acre.

Deep Prospects: Stanolind Oil & Gas Company's Slaughter 1, Cochran County, drilling lime and shale 9230 feet, and Universtiy 1-D, Andrews County, halted at 10,460 feet, or 403 feet in Ellenburger, and will plug back and set pipe to try for production in the Devonian. Magnolia Petroleum Company's Johnson 1, Lubbock County, was drilling sandstone at 9825 feet, and its American Republics 1, Upton County, was losing returns at 8293 feet. Humble Oil & Refining Company's Parrott 1, Upton County, was drilling shale 8215 feet, while its Buchanan 1, Midland County, was fishing for drill pipe at 8177 feet.

Pecos County: The Texas Company's Hart 1, C NE SE GC&SF Ry. 2, Block 114 and ¾-mile southwest of the Fort Stockton field, indicated commercial production when tester was used in Yates broken pay at 2792-2879 feet, and pipe has been landed at 2795 feet to complete through open hole. Humble Oil & Refining Company's Riggs-Lewis 1, 1⅛ miles southeast of the field, logged first oil saturation at 2892 feet, but tested dry at 2885-2947 feet, and was coring at 2962 feet.

Reagan County: Superior Oil Company of California, Wiggins & Hyde's University 1-B-A proved dry on incomplete drill stem tests at 10,177 feet and 10,257 feet in Ellenburger, topped at 10,060 feet. However, a trace of oil was evident on the last test, and tester will be re-run.

North Texas

Oil Saturation Is Logged By Grayson County Test

Grayson County test drilling at 9175 feet after logging broken oil saturation; Wilbarger County offset completed; test in Cooke County lands pipe to perforate opposite favorable saturation; Bend production in Wolf pool gets extension.

Grayson County: The Pure Oil Company's Quintin Little 1-A, J. Myers Survey and on the Gordonville geophysical prospect, was drilling brown dolomite at 9175 feet after logging ample broken oil saturation to warrant the landing of pipe for a production test. This wildcat is slated to explore the Ellenburger, original objective, as nearby lease owners contributed dry-hole money for a 11,000-foot test, or water in the Ellenburger. First encouragement for deep production was noted in a sand at 9057 feet, while core at 9153-60 feet in brown dolomite yielded six inches of oil saturation.

Wilbarger County: Amerada Petroleum Corporation's Wilkinson 1, south offset to the Odell field discovery, flowed 193 barrels of 43-gravity oil through ¼-inch choke for completion after using 1000 gallons of acid through perforations at 4758-79 feet.

Fain-McGaha's Wilkinson 1, east offset to the above well, failed to make a commercial producer in testing oil and water from Palo Pinto lime perforations at 4763-94 feet, while The Texas Company's Evans 1, one location east, tested dry after acidizing perforations at 4785-4812 feet, but may be deepened to explore the Strawn.

Montague County: Sinclair Prairie Oil Company's Foster 1, SWc of Sec. 179 and a mile southeast of the Clingingsmith 6-well pool, tested salt water at 6134-43 feet in Bend, topped at 5927 feet, being flat with nearest producers, and was drilling shale at 6242 feet. Nominal shows were recorded in the Strawn and also the upper section of the Bend.

Cooke County: Kerlyn Oil Company's Hay 1, Amos Bailey Survey and 2 miles east of Gainesville, landed pipe at 2222 feet to perforate opposite favorable oil saturation passed up at 2165-74 feet and 2178-90 feet in exploring the Ellenburger, which proved barren at 3837-4280 feet. This wildcat is 1⅓ miles northwest of production, but separated by failures.

Jack County: Paul Steed et al's Ware 1, NEc TE&L 3350, extended Bend production in the Wolf pool 2/3 mile southwest in flowing 113 barrels of oil initial through tubing choke from saturation at 4455-70 feet. This outpost is the second oil well for the area, and entered the Bend at 4453 feet, or 37 feet low.

Second oil producer for the Matlock deep sector of the East Bryson area was recorded when Shell Oil Company's Beggs 1, northwest offset, flowed 362 barrels of oil on 6-hour test through open tubing after using 1000 gallons of acid through perforations in the Mississippian, topped at 5198 feet, or 93 feet high, with most effective porosity at 5238-50 feet.

James Stewart & Company's Kinder 1-D, NWc of B. H. Epperson Survey and 2 miles east of the Sewell multi-pay field, was drilling at 4410 feet to explore the Mississippian. This wildcat passed up show oil in Bend and flowed oil from Marble Falls, topped at 4150 feet. Two nearby tests have been authorized on the strength of the Marble Falls showing.

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HERBERT HOOVER, JR., Pasadena, California, president of United Geophysical Company, and A. A. Curtice, Caracas, Venezuela, vice president of United Engineering Company, will be the speakers at the annual dinner January 24 of the Tulsa Chapter Nomads at Tulsa.

F. D. BREEDLOVE, superintendent for Magnolia Pipe Line Company in the north portion of the West Texas-New Mexico district with headquarters at Midland, has terminated 20 years of service to devote his time to his ranch interests, and will be succeeded by F. G. White, formerly at Luling, Texas.

East Texas

Accelerated Development In Winnsboro Field Seen

Wood County test to be completed as Winnsboro field extension; well near Gloyd pay discovery flows natural on test; Smith County test logs prospective oil pay in Rodessa series.

Wood County: Accelerated development in the Winnsboro 2-pay field will follow the completion of H. L. Hunt's Craddock 1, John W. Griffin Survey, as a 4500-foot west extension flowing 253 barrels of 48.5-gravity oil with gas-oil ratio of 1333/1 natural through 3/16-inch choke from Gloyd (Rodessa) per-

FOR SALE

Reconditioned Drilling Equipment and Pipe

UNITIZED CORING REELS FOR DEEP DRILLING
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Tool joints in excellent condition per ft., $1.50.
3000 feet 3½″ Range II 13.30-lb. Hughes drill pipe.
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8000 feet 2⅜″ Range I 10-lb drill pipe tool joints API Reg. on doubles.
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1—Link Belt complete with motor—V-Belts. Used very little.

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1—27½″ Ideco roller bearing completely overhauled.
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2—13⅜″ Cameron, 3000-lb. Test, fluid operated, flanged, S.D.A., each.....$1500.00
1—13⅜″ Shaffer, 3000-lb. Test, with 4½″ and Blank Rams.....$1100.00
1—13⅜″ Cameron, 3000-lb. Test, manual operated, 4½″ Rams.....$ 750.00
2—16″ 3000-lb. Test Cameron Preventers, A-1 condition.....$1500.00
2—7″ Cameron Fluid Operated Tubing Preventers, 2″ and 2½″ Rams.....$ 475.00
1—7″ Reagan Tubing Preventer, new, with hydraulic pump.....$ 475.00

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1—Wilson Titon Drawworks with 325 H.P. Wax motor model No. 6-L.R.H. in excellent condition and 1—350 H.P. Wilson Gas, Gasoline or Butane motor, completely overhauled, with Gear Box. This unit is ready for service.

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2—Wilson-Snyder 14 x 7¾ x 18 with Abercrombie steel ends. Mounted on steel skids, completely overhauled.....$4750.00
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forations at 8164-88 feet. This outpost is higher structurally than earlier completions. Magnolia Petroleum Company has authorized an offset, while intermediate acreage will be developed promptly.

Gulf Oil Corporation's Petty 1-A, 1550 feet west of its Gloyd pay discovery, flowed 57 barrels of oil on 7½-hour natural test through ⅛-inch choke from Gloyd perforations at 8227-32 feet.

Amerada Petroleum Corporation's Gamblin 1, which recently made a producer from perforations in the Bacon (Upper Rodessa) perforations at 7845-62 feet, after plugging back from Travis Peak at 8595-8922 feet, has been delayed by mechanical trouble in making a test of the lower zone with a view of having a dual completion.

Delta Drilling Company et al's Mosley 1, Seth Mitchell Survey and ½ mile north by east of the Oak Grove prospect, Wood County, entered the Woodbine series at 5260 feet, or 25 feet low, and was coring at 5382 feet with the oil zone due near the 5450-foot level. The inactive low-gravity oil discovery for the area cut a fault in the Woodbine series, while no fault has been recorded by the new test.

Smith County: Phillips Petroleum Company's Englander 1, Don T. Quevado Survey and 3½ miles south by west of its South Tyler field discovery in basal Rodessa at 9918-29 feet, is credited with having logged approximately 40 feet of prospective oil pay in the Rodessa series and was drilling at 10,050 feet. No geological markers have been released on this outpost, but if it makes a producer the South Tyler area will be considered confirmed as a major oil area. The company's Grelling 1, 3000 feet northwest of the discovery, was drilling at 8560 feet in Upper Glen Rose, topped at 7870 feet, or 69 feet low. No work has been undertaken on the east and north offset locations staked upon the completion of the discovery last July.

Wildcats: The Texas Company's McKnight 1, prospective gas distillate strike for the Fairfield area, Freestone County, was scheduled to have set pipe for completion in about 74 feet of porosity, 3 levels between 8233 and 8386 feet, after reaching water in Travis Peak in drilling to 8535 feet. The same company's Morse 1, Chandler prospect in Henderson County, was fishing for drill pipe at 9966 feet. Humble Oil & Refining Company has cemented 9-inch protection string in the Georgetown at Jones-Huddleston 1, Henderson County, and new Birmingham 1, Cherokee County, and both will explore the Travis Peak.

Mid-Continent Group on Nomenclature to Meet

The annual meeting of the standing committee on oil field nomenclature of the Kansas-Oklahoma Division, Mid-Continent Oil & Gas Association, will be held January 24, at Tulsa, according to an announcement by Clarel B. Mapes, secretary. Paul Potter, chief scout for Shell Oil Company at Tulsa, is acting general chairman.

The agenda will include a review of 1944 activities of Kansas and Oklahoma steering committees on oil field names and history. The general chairman and general vice chairman of the standing committee and the chairmen of the steering committees will be selected for 1945.

Southwest Texas

Willacy, Zapata Counties Given New Completions

Completions reported on new fields in Willacy and Zapata Counties, and casing has been set for tests in a Kleberg County wildcat.

Willacy County: The Texas Company's Yturria Bros. Land & Cattle Company, most recent Southwest Texas discovery, which opens the Raymondville field, was gauged at 47 barrels of 42.9-gravity oil daily through a ⅛-inch choke, showing about 7 percent water and basic sediment with tubing pressure 225 pounds and gas-oil ratio 556 to 1. This well is producing from a rather shallow sand with casing perforated at 6380-82 feet. Total depth is 8015 feet. The company has drilled a number of deep tests in the area, most of them on a lease covering more than 18,000 acres of this property. Location has been made for Yturria Land & Livestock Company 5, on a 10,913-acre lease, with a proposed depth of 9000 feet.

Pan American Production Company's Crane 1, deep test in the Willamar field, is drilling below 10,250 feet in shale after running electric log to check the sand from which the well recently kicked and attempted to blow out. Some sand was indicated on the log but did not show up in side-wall cores.

Zapata County: Humble Oil & Refining Company's Juana Y. McDermott 1, which opens a new producing area 25 miles north of Roma, has completed potential test, but is showing for a very small producer. In 24 hours, flowing through a ⅛-inch choke, it made 19.3 barrels of fluid of which only 5.5 barrels was net oil. Drilled to 7004 feet originally, completion was made through perforations at 2509-18 feet in a shallow sand. Casing pressure is 140 pounds, no pressure on tubing.

Kleberg County: Tide Water Associated Oil Company's E. W. House 1, wildcat 2 miles northeast of Ricardo, is waiting on cement at total depth of 8650 feet after running 5½-inch casing to 8515 feet. The well had cored and drilled a section of thin streaks of sand carrying showings of gas and possibly distillate, but really good sand bodies were reported.

Nueces County: A new dual-completed producer was added to the Agua Dulce field in Jay Simmons' J. B. Treybig 1, flowing from perforations at 7042-45 feet and 7065-68 feet. Test on upper perforations showed 62.79 barrels of 42-gravity oil in 24 hours through a 5/32-inch choke with casing pressure 660 pounds.

Texas Fields Opened To Restricted Drilling

The director in charge, District 3, PAW, has issued a memorandum to all operators in the district, that a group of heretofore "restricted areas" may be drilled for oil, providing each such well complies with the provisions of paragraph (c) of Supplementary Order No. 12, issued July 1, 1944.

"If any well authorized hereby, is completed as a gas or condensate well, it shall not be produced except to provide fuel for drilling or fuel for other lease operations, or for testing the well for a period not exceeding 15 days, until authorization has been granted by the PAW," the memorandum states. "Before any application for authorization to produce such wells will be favorably considered, the question of material requirements, gas demand and utilization, and consolidation of appropriate acreage must be satisfied."

The fields include: In East Central Texas, Cayuga, Hawkins, Long Lake and Rodessa; Texas Upper Gulf Coast, Dickinson (not including the Gillock field), Eureka Heights, Hamman, Red Fish Reef, Willow Slough; South Texas, Alice, Ben Bolt, LaRosa, McLean, North Magnolia City, North Sweden (Benavides), Sejita, Shield; South Louisiana, Delta Farms, Erath, Gibson, Lake Arthur (South Roanoke), Lake Long, West Gueydan; North Louisiana, Cotton Valley, Lisbon, Rodessa, Sligo, Sugar Creek; Arkansas, Rodessa.

Tax Hike Wanted

State Senator Thomas McCormack of California has called a public hearing for consideration of a 1½-cent increase in gasoline tax to be used for super highway purposes.

Texas Gulf Coast

Brazoria Gets Oil Field; New Gas Area Is Opened

Oil field opened in Brazoria County; new gas area in Wharton County; Big Creek field in Fort Bend County gets extension; wildcats in Chambers, Colorado, and other counties tested.

Brazoria County: Glenn McCarthy's Ira Dudley Wilson 1, 5½ miles northwest of Angleton, has opened a new oil field, although not yet cleaned completely and gauged. Casing was perforated at 8698-8714 feet for a drill stem test which flowed oil for 24 hours, and on production test now in progress it is flowing an estimated 300 barrels of 35-gravity oil daily through a ¼-inch choke along with about 15 percent mud and wash water. Pressure on tubing is around 500 pounds. The discovery well is in the John Bradley Survey on acreage farmed out by Stanolind Oil & Gas Company.

Humble Oil & Refining Company's Frank Schmidt 1, which opened new production on the south flank of Danbury Dome, has been gauged at 312 barrels of 33.2-gravity oil daily through a ¼-inch choke from perforations at 7542-56 feet.

Fort Bend County: Stanolind Oil & Gas Company's George Lingnau 1, outpost a mile northwest of production in the Big Creek field, has been completed through perforations at 6278-82 feet, plugged back depth 6290 feet, flowing through a ⅛-inch choke at the rate of 235 barrels of 33-gravity oil daily with tubing pressure 1250 pounds and casing pressure 1400 pounds. The company has made location for Ballinger 1, an offset test 664 feet northwest of the new well.

Chambers County: Standard Oil Company of Texas' State 1-110, wildcat in Galveston Bay, Smith Point area, is making a production test which apparently is expected to be successful, since the company has already started driving piling for its No. 2 well in the same section. The State 1-110 was drilled to 8225 feet and set casing at 8223 feet, apparently for testing the equivalent of the Smith Point field pay.

Humble Oil & Refining Company's Mayes 3, 1320 feet north of the recently

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completed Mayes 1, discovery well for the Mayes field, has spudded and is preparing to set surface casing. The discovery gauged 752 barrels daily through a ¼-inch choke from perforations at 8166-69 feet.

Wharton County: The Texas Company's H. R. Matzke 1, 2 miles southwest of Pierce, in Section 26, has completed as a gasser from perforations at 5779-84 feet, flowing 58,500,000 cubic feet of gas daily to open a new gas area. Total depth of the well was 6345 feet.

Colorado County: Pan American Production Company's Williams 1, 8 miles west of Eagle Lake, recovered salt water on drill stem test at 8805-14 feet, tested dry at 8792-8800 feet, and is preparing to test higher. A sand between 8350 and 8400 feet is expected to produce gas and distillate but probably will not be tested for another week or so.

South Louisiana

New Oil Field Indicated For St. John Parish

A new oil field is indicated in St. John the Baptist Parish, and new pay horizons were opened at Belle Isle in St. Mary Parish, and at Mystic in Beauregard Parish.

St. John the Baptist Parish: The Atlantic Refining Company's Lutcher-Moore B-1, wildcat on the Reserve prospect in the northwestern corner of the parish, has been completed through perforations at 10,254-266 feet, but has been shut in without a gauge after having cleaned itself into the pits. Complete gauge will be available after tanks have been completed. Gravity of the oil after cleaning was 36 degrees and shut-in tubing pressure is 3475 pounds. Total depth is 11,626 feet with 7-inch casing cemented at 11,518 feet. The company has started building roads to its Lutcher-Moore B-2, also in 33-10s-6e.

St. Mary Parish: Sun Oil Company's Belle Isle Corporation 7, in the Belle Isle field, has been completed at 8248-70 feet, flowing 227 barrels of 33.6 gravity oil daily through a ⅛-inch choke with tubing pressure 1200 pounds and gas-oil ratio 482 to 1. This opens another sand.

Beauregard Parish: Yegua Corporation's Lutcher-Moore Lumber Company B-1, in 28-6s-12w, in the Mystic or Fields area, has opened a new Yegua formation sand producing below the depth of the regular Bancroft pay. With total depth 8250 feet, casing was set at 8243 feet and perforated at 8223-26 feet. On initial test it flowed at the rate of 216 barrels of 46-gravity oil daily through a 10/64-inch choke with tubing pressure 1550 pounds and ratio 1100-1.

Jefferson Davis Parish: Barnsdall Oil Company et al's Fuselier 2, northeast offset to the discovery in the West Tepetate field, is preparing to squeeze perforations and make a test in the upper sand after showing salt water with a little oil on a drill stem test at 9071-84 feet.

Iberville Parish: Humble Oil & Refining Company's C-1 Wilberts Minerals Corporation, in the Bayou des Glaise area, is waiting on cement with casing set at 10,382 feet and total depth 10,581 feet. It has perforated and made a squeeze job before running a production test.

North Louisiana

Caddo Wildcat Indicates Gas-Distillate Production

Indications of another gas-distillate producer were picked up in a Caddo Parish wildcat; interest, at first cooling in the Delhi area of Richland Parish, revived with the possibility of a second producer.

Caddo Parish: Phillips Petroleum Company apparently has commercial gas-distillate production from the Travis Peak at 5990-96 feet in Moneyham 1, C NE NW 5-18n-16w, Longwood shallow gas area. The wildcat tested 1,250,000 cubic feet of gas and spray of distillate per day. Testing is proceeding, probably in the Pettit before completing in the Travis Peak section. Total depth is 6512 feet, with string of 5½-inch casing cemented at 6077 feet.

Richland Parish: Active drilling, inspired by the fairly shallow, high gravity oil discovered at Delhi, was dampened by H. L. Woods' failure at Ellett Munholland 1, NE NE 20-17n-9e, ¾ mile west and ¼ mile north of the discovery. It went to 3732 feet but missed the Tuscaloosa pay. A core taken between 3250-60 feet logged salt water. Two definite wildcats in the parish failed: Roeser & Pendelton and Atlas Oil & Refining Company abandoned Tensas Delta Land Company 1, C SW SW 1-14n-5e, at 4510 feet, last top logged being Tuscaloosa red beds at 3655 feet. In Franklin Parish, 5 miles southwest of the Delhi discovery, American Liberty Oil Company is expected to abandon J. E. Holt 1, SE NE 11-16n-8e. Electrical survey was run without

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Tracts located in Andrews, Cooke, Crane, Crockett, Pecos, Reagan and Upton counties; date of sale, February 16, 1945; to be held in the Capital Ballroom of the Stephen F. Austin Hotel, Austin, Texas, to begin at ten o'clock A.M.

For additional information write to the Secretary, Board for Lease of University Lands, University Station Box 2125, Austin 12, Texas.

indicating production. The well is at 3416 feet.

Charles Murphy and Sun Oil Company may have a second producer for the Delhi field at J. E. Holt B-1, C SE NE 21-17n-9e, northeast diagonal offset to the discovery. A 10-minute drill stem test of a sand stringer above the main section of the Tuscaloosa at 3220-29 feet, using ¼-inch top and bottom chokes, registered a good blow of gas, but no showing of oil. The main sand section was believed to have been hit from 3241-50 feet, and another test has been ordered.

James E. Kemp has cemented 9⅝-inch casing at 415 feet in May 1, 26-17n-9e, and is drilling. The well is expected to shed further light on the size of the field. At present the axis of the field is said to be northeast-southwest and limited to 640 acres.

Natchitoches Parish: The California Company's wildcat Annie Morrison 1, NE¼ 15-13n-8w, one of the most important tests now drilling, was below 5316 feet in lime of the Rodessa series. Intermediate casing probably will be set to 5300 feet before drilling is resumed. Two possible productive sands are said to have been logged, one in the Eagleford at 3295-3333 feet and the other in Rodessa from 5116-33 feet. Drill stem tests were not run on these sands, but cuttings and cores indicated commercial possibilities. A 10-minute drill stem test from 5297-5312 feet recovered 7 stands of salt water.

Catahoula Parish: The California Company squeezed off perforations and temporarily abandoned Tensas Delta Monaghan Land Company 1, C N½ SW SW 12-9n-7e, wildcat in the Sicily Island area which was producing 40 barrels of distillate and 1,250,000 cubic feet of gas per day through 3/16-inch choke on tubing. The well began making salt water shortly after completion through 191 perforations at 8512-44 feet, opposite the Massive sand.

Bossier Parish: J. R. Hayden, Trustee, is drilling out old hole to 9-inch diameter at Ellerbe 1, 3-20n-13w, 3 miles northwest of the new Benton field discovery. The well, drilled several years ago, was carried to 6022 feet, without commercial indications, but since has been revealed as higher on structure than the Benton discovery. Hayden plans to stop at 6000 feet and set intermediate string of casing before resuming drilling.

Arkansas

Royalty Play Is Developed By Show in Union County

Encouraging show in Union County wildcat develops mild royalty play; Salem Church field production defined to the northwest by a failure; Magnolia has initial water disposal well for repressuring the Smackover lime horizon; previously abandoned hole in the Stephens field produces from a deeper horizon, possibly leading to the reopening of several dry holes in the field.

Union County: Marine Oil Company's L. O. McGough 1, C NE NW 34-17s-13w, 3 miles north of Urbana townsite, drilled to 4612 feet and logged a likely oil sand on electrical survey from 3563-79 feet in the Travis Peak. Sidewall cores affirmed this. This zone is possibly comparable to the old pay in the Urbana field, 1 mile south, but may yield a higher gravity of oil. The well is drilling below 5275 feet and may go to the Smackover before making a test.

National Associated Petroleum Company lost twisted off drill pipe and collar at 5515 feet in Annie Smith 1, NE NE NE 17-16s-17w, but is making recovery. A showing of oil in cuttings from 3985-95 feet was verified by sidewall cores after electrical survey was run at 4672 feet.

Root Petroleum Company's Union Saw Mill 1, C NW NW 27-18s-12w, new Smackover lime discovery in the Strong area, is producing again after being reworked following the influx of salt water. It is flowing 120 barrels per day from the lime after acidizing through perforations from 6320-32 feet. Originally 23 perforations were made from 6320-30 feet, and the well was pumping 120 barrels per day.

Columbia County: Root Petroleum Company's Manning 1, C NW SE SE 29-16s-18w, ½ mile from the discovery well, was abandoned at 7045 feet when electrical survey failed to pick up shows warranting the setting of casing. Buckner was logged at 6760 feet, Smackover at 6986 feet, Reynolds at 6999 feet. A core from 7000-18 feet recovered dense granular lime with a slight odor of gas. The field, discovered in 1944, will be limited to the northwest, and thus appears to be small in area and on an east-west trend.

The Carter Oil Company's Crisp 1, SW NE 20-17s-19w, the initial salt water disposal well to be drilled in the Magnolia field, is successfully disposing of salt water into the Smackover lime horizon. Carter will drill 3 other such wells following approval by the Arkansas Oil & Gas Commission and the operators who have subscribed to the venture, and has made plans for laying lines and building a salt water treating plant. The project will cost from $500,000 to $750,000.

Johnson County: Stanolind Oil & Gas Company is tearing out cable tools and moving in rotary rig for G. B. Maxwell 1, C SE SE 18-8n-18w. The well is drilled to 4637 feet, but has logged no commercial shows, and probably will be carried to the Arbuckle lime.

Ouachita County: R. H. Crow, Trustee, made a producer of a previously abandoned hole at Boyce 1, SW SE NW 7-15s-19w, in the Stephens field, deepening the hole from 4031 feet to 4090 feet and cementing 5½-inch casing at 4040 feet. Casing was perforated with 15 shots opposite 3765-70 feet, and the well swabbed 100 barrels of oil and 10 barrels of salt water in 10 hours. It will be officially completed with standard rig. Other abandoned tests in the field whose sands did not show exceptionally well on electrical surveys may be reworked profitably. Since the producer is on the east edge of the field, it should prove up possible producing locations in that sector.

☆

R. C. SWANTON, director of purchases, Winchester Repeating Arms Company, New Haven, Connecticut, and national president of the Purchasing Agents of America, spoke before the Purchasing Agents Association of Tulsa, January 15. Carl Wuerpel of Fort Worth, district vice president, was on the program, which included inauguration of R. V. Stephens, purchasing agent of Public Service Company of Oklahoma, as president.

Southeastern

Adams County, Mississippi, Given Second Oil Field

New field opened in Adams County, Mississippi; oil showings recovered in wildcat west of Tinsley field, Yazoo County; discovery in Clarke County is still setting up pump; several wildcats are at critical depths.

Adams County: After weeks spent in testing various points in the lower part of the hole, The Pure Oil Company completed its McDowell 2 in the Natchez area to open the second field for Adams County. On initial gauge the well flowed 91 barrels of 54-gravity condensate and 2,000,000 cubic feet of gas daily through an 8/64-inch choke with tubing pressure 3125 pounds. Casing was perforated for final completion at 10,273-286 feet, in a Tuscaloosa sand which had been found before the original casing string was landed at 10,285 feet. Total depth is 12,149 feet.

Yazoo County: Southern Natural Gas Company's Gammill 1, wildcat 9 miles west of production in the Tinsley field, Mississippi's first oil production, is drilling below 6940 feet, still apparently in the Eutaw section and still recovering cuttings with oil stains. The section has not been cored but probably will be checked with side-wall cores after running electric log. Interest was first attracted when oil showings were reported in cuttings while drilling around 6600 feet.

In the Tinsley field itself, Union Producing Company's Jennie Stevens 21, proposed 12,000-foot test, was drilling at 4580 feet in black shale.

Clarke County: Kirby Petroleum Company's Long Bell Petroleum Company 1, which is virtually assured of production in the upper Eutaw, is still rigging up pumping unit before making production test. With casing perforated at 3726-39 feet, it had recovered 2100 feet of heavy black oil on a drill stem test, and swabbed at the rate of 100 barrels daily.

A. B. Irion's Long Bell Minerals Corporation 3, about 10 miles northwest of the Kirby well, is also preparing to rig up pumping unit for a test at 3844-62 feet where it had tested some oil and water.

Jasper County: Gulf Refining Company's Edwards-Bailey Unit 1, on the Soso prospect, is drilling below 8066 feet after failing to find any shows of oil or gas in recent cores. Latest showings were at 7820-35 feet, where a drill stem test recovered oil-cut mud. It showed gas and distillate on a test at 6992-6650 feet.

Marion County: Humble Oil & Refining Company's A. Evans 1, on the southwest flank of the Lampton salt dome, was drilling at 9550 feet in sand and shale and has not picked up any further showings. It attracted interest when shows of oil were reported above this point, but a drill stem test at 9244-54 feet showed salt water only.

Georgia

Sun Oil Company is coring below 2204 feet in Doster-Ladson 1, Land Lot 71, Land District 7, Atkinson County, 35 miles west of Waycross. The well is reported to have hit another cap rock at

3300 feet, and previously drilled a hard cap rock at 3260-62½ feet, afterward coring shale and streaks of sand with slight odor of oil from 3262½-76 feet. A drill stem test recovered 1000 feet of fresh water and a rainbow of oil with no showing of gas. The test is on a geological and geophysical high.

Florida

Humble Oil & Refining Company completed rigging up its big steam rig and is drilling below 4056 feet in lime at Gulf Coast Realties 4, 20-48s-30e, in Collier County.

The company's State 1, C NE NW 30-55s-36e, Dade County, is reported at 10,728 feet in anhydrite with no showings of oil or gas. G. C. Carleton Estate 1, C SW NE 34-28s-29e, Highlands County, has resumed drilling and is below 133 feet in sand and clay. It was necessary to recement 26-inch conductor pipe at 92 feet.

Alabama

Southern Natural Gas Company is drilling below 4310 feet in Fannie Stokes 1, C SW NW 32-12n-5e, Wilcox County, but withholding geological information until completion of test.

H. L. Hunt, discoverer of Alabama's first oil production, is locating 3 more tests in the producing area of Choctaw County. They are Maggie Utsey 2, 33-11n-4w, W. S. Scruggs 2, 33-11n-4w, and Boney-Scruggs 1, 32-11n-4w.

☆

BEN ZWICK, manager of operations for the International Petroleum Company in Ecuador, is in California on a trip which will take him through the Mid-Continent oil fields. He formerly was chief engineer of Tropical Oil Company in Colombia.

California

Promising Zone Picked Up By Newhall-Potrero Test

The deep test of Barnsdall Oil Company in the Newhall-Potrero field has picked up another zone, to be called the seventh zone, at 10,300 feet.

The horizon is 150 feet thick and is still being cored. Before starting the deep test Barnsdall had 3 producing zones in the field. As a result of the deep well the company has added a fourth, fifth, sixth and now a seventh zone to the reserves of the field. The fourth zone is known to be wet. The fifth and sixth zones look very promising on the electric log. The seventh zone also looks good on the cores, but has not been electrically logged. Below all of the zones thus far found there is still the hope of picking up the prolific Sesnon zone.

Sun Oil Company of Philadelphia has joined forces with Richfield Oil Corporation in an interesting exploratory play on the Gonyer anticline, 5 miles southwest of Taft, Richfield officially announced. Re-entry of Sun into California oil field development ends an absence of more than 10 years. The two organizations hold jointly a group of government leases totaling 4300 acres on the Gonyer unit. The projected development was approved by the Secretary of Interior December 30, 1944. Roads are in the course of construction to site for the first well, 129 feet south and 1460 feet west from the northeast corner of 34-12-25, Kern County.

A natural gas discovery was brought in by Shell Oil Company at Kirby Hill, 9 miles north of Pittsburg, near Suisun Bay. It flowed 4,000,000 cubic feet of gas a day "under wraps." Should the new producer, brought in at the relatively slight depth of 2300 feet, be the forerunner of production sufficient to affect industries, as well as home heating, it could conceivably affect consideration given by the gas industry to piping gas from Texas.

Company Drills 63 Wells

Standard Oil Company of California completed 63 wells in December, an all-time record in the company's drilling operations.

This includes 33 drilled under Navy contract in Elk Hills. In December, 1943, the company completed 30 wells.

Standard began 1945 operations with 78 rigs drilling in California, including 19 in Elk Hills.

Humble Lists Changes

Humble Oil & Refining Company, Houston, announces the following changes in supervisory forces of the production department:

R. E. Stearns was promoted to district superintendent of the London District, Overton, Texas. C. M. Vardaman was promoted to district superintendent of the Talco District, Talco, Texas.

☆

R. E. SHUTT has resigned as vice president of Shell Oil Company and has been elected vice president of Barnsdall Oil Company in charge of exploration for the Mid-Continent division.

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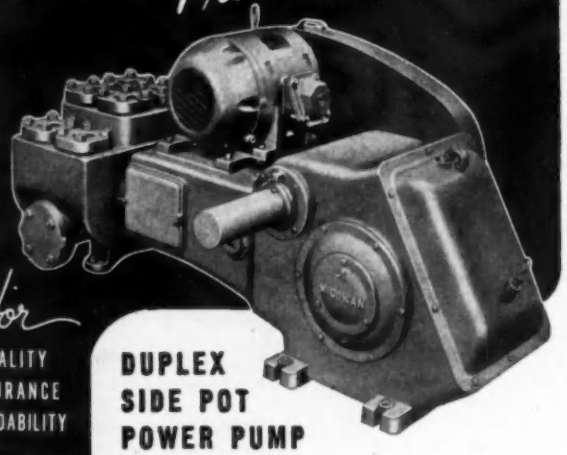

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WESTERN CANADA

Second Devonian Dolomite Discovery Well Probable

Outlook was encouraging this week for completion of a second Devonian Dolomite discovery well on the Southern Alberta Plains. The independent Empire Petroleums Ltd.'s No. 1 well, 11 miles southeast of Standard Oil Company of California's Princess discovery, entered the Dolomite at 4063 feet, about 107 feet lower than the Princess venture. Slight, pin-point porosity showed in the Devonian to 4086 feet, with oil saturation evident. A drill stem test showed a 65-foot rise of drilling mud, oil and gas, with no evidence of water, lack of the latter being the most encouraging feature. On January 15 coring was proceeding at 4104 feet. Location is in lsd 7 11-19-11w4th.

The California-Standard discovery well entered Devonian Dolomite at 3913 feet, showed a 250-foot rise of drilling fluid and water with no oil in test of the top few feet, then cored on to enter oil-bearing porous formation 52 feet below the Dolomite contact. Under considerable back-pressure, it is now flowing from 150 to 170 barrels daily of 34.5-gravity oil from the Devonian section 3965 to 3983 feet.

Bottom hole pressure of 3910 pounds at 9740 feet at Shell Oil Company of Canada's 4-24-J discovery well, was shown in a 24-hour buildup. The Jumping Pound area Madison Limestone discovery has now been closed in. It will be opened to provide fuel gas for coming Shell drilling on the flanks of the structure.

The discovery well, which showed 13,500,000 cubic feet of gas and 95 barrels of naphtha daily under light back pressure through 3-inch tubing, has completed 2 weeks of experimental operation. Gas-oil ratio was cut from 143,000 cubic feet per barrel to about 60,000 by restriction of choke to 11/64-inch. Through this choke, with tubing pressure of 2600 pounds, the well yielded 1,250,000 cubic feet of gas and about 20 barrels of naphtha daily. Gravity of the liquid product is 53-55.

California-Standard has staked initial followup test in vicinity of its Princess Devonian discovery. The new well, Princess-C.P.R. No. 76-22a, is to be drilled in the center of the northeast 10 acres of lsd 12 22-20-12w4th, ⅜ mile southeast of the discovery Princess-C.P.R. 18-21a (formerly known as No. 8). It is less than ¼ mile south and east of the Princess-C.P.R. 1, the 1940 completion which showed oil in the Devonian but was lost due to mechanical difficulties. Can-Tex Drilling Company will drill the new venture.

☆

R. C. TUCKER, manager of the Mid-Continent Supply Company's Permian Basin division sales with headquarters at Midland, Texas, has resigned to become vice president of George P. Livermore, Incorporated, producing and drilling firm with headquarters at Lubbock, Texas. Tucker will be succeeded by W. I. West, formerly with the firm at Houston.

H. R. MacMILLAN, 68, vice president and general manager of the MacMillan Petroleum Corporation, died January 13 at Los Angeles. He was a former president of the California Oil and Gas Association.

U. S. Exploratory Completions

ALABAMA WILDCAT

Clarke County—Failure: Bunte Oil Company's S. P. Chapman 1, c ne nw 30-9n-3e, elev 368 ft, Selma 2341 ft, Eutaw 3460 ft, Tuscaloosa 3905 ft, Marine Tuscaloosa 4504 ft, Massive 4821 ft, L. Cret. 5205 ft, abnd 6010 ft.

ARKANSAS WILDCAT

Miller County—Failure: Arkla Oil Co.'s R. T. Dodd 1, 11-19n-28w, elev 362 ft, Paluxy 4128 ft, Glenrose 5574 ft, anhy 5790 ft, massive anhy 5980 ft, Gloyd 6493 ft, td 6810 ft in sw, pb and abnd 6300 ft.

ARKANSAS OUTPOST

Lafayette County—Midway Failure: Lion Oil Ref. Co.'s Ladie 1, 4-15s-24w, elev 295 ft, Massive Anhy 3212 ft, Travis Peak 4110 ft, Cotton Valley 4990 ft, Buckner 6340 ft, Smackover 6580 ft, porosity 6585 ft, abnd 6650 ft.

CALIFORNIA WILDCATS

Kern County—Failures: Shell's B-47-25, ne sw 27-30-26, Canfield Ranch area, Stevens 8101 ft, pump all wtr, abnd 8391 ft.

Bender Drlg. Co.'s Tarabino 2, se sw 5-29-29, Round Mountain area, Vedder 2720 ft, abnd 2785 ft.

General Pet. Corp.'s Tarabino 2, se sw 5-29-29, Round Mountain area, Vedder gray, abnd 3180 ft.

Gene Reid Drilling Co.'s Scott 1, sw sw 34-29-28, no test, abnd 6717 ft.

Harry H. Magee's Hogan 1, nw sw 4-31-29, abnd 6477 ft.

Los Angeles County — Failure: Standard's N.L.F. 3, 19-4-17, Newhall-Potrero area, abnd 6084 ft.

Solano County—Failure: Standard's Suisum 5, se se 31-4-1, abnd 4405 ft.

COLORADO WILDCAT

Moffat County—Failure: Pacific Western's Unit 1, ne nw nw 31-12n-101w, Haymower Dome, abnd pre-Wasatch beds 4030 ft.

ILLIONIS WILDCATS

Bond County—Failure: B. F. Thompson's Elmore 1, se se ne 11-6n-2w, abnd 1301 ft.

Douglas County—Failure: Ohio s Shaw 1, sw sw sw 36-16n-8e, abnd 4151 ft.

Edwards County—Failure: Sam C. Yingling's Smithwick et al 1, se ne nw 6-1n-10e, abnd 3375 ft.

Effingham County—Failure: Joe Bander et al's Gibson 1, nw nw se 21-8n-3e, abnd 2557 ft.

Wabash County—Failure: Paul Greauling et al's Abell 1, ne ne ne 36-2n-13w, abnd 2038 ft.

Wayne County—Failure: Gulf's Keith 1, ne ne se 19-2n-7e, abnd 3289 ft.

White County—Discovery: W. I. Lewis et al's Burkhardt 1, se ne sw 18-5s-9e, pump 192 bbls Cyp sd 2844-58 ft, td 2858 ft.

INDIANA WILDCATS

Posey County—Failure: Bristol Hackbush's Goedee 1, ne ne sw 24-5s-12w, abnd 2820 ft.

White County—Failure: C. R. Hutcheson's St. Pierre 1, ne nw 27-27n-6w, abnd 135 ft.

KANSAS WILDCATS

Cowley County—Failure: Zephry Drlg.'s Bosi 1, ne nw ne 13-35s-4e, Bart sd 3095-3100 ft, Miss li 3156 ft, abnd 3170 ft.

Ellis County—Failure: Maguire Ind.'s Stecklein 1, se nw 21-14s-17w, abnd 3572 ft.

Ellsworth County—Failures: Phillips' Bettenbrock 1, sw ne ne 23-17s-7w, Miss 3282 ft, abnd 3777 ft.

Phillips' Shannon 1, sw se nw 28-17s-7w, Simp 3427 ft, abnd 3524 ft.

Kearny County—Failure: Carter's Strong 1, c nw se 27-22s-35w, abnd 3002 ft.

Marion County—Failure: Texas Co.'s Schmidt 1, ne sw sw 31-20s-3e, Simp 2972 ft, abnd 3150 ft.

Sedgwick County—Failure: Beech Aircraft's Cox 1, nw se sw 36-28s-2e, Miss 2940 ft, abnd 3026 ft.

Stafford County — Failure: Sharon Drlg.'s Krey 1, nw 25-23s-35w, Simp 3758 ft, abnd 3641 ft.

KENTUCKY WILDCATS

Henderson County — Failure: Sohio et al's Boswell 1, 19-P-26, abnd 2190 ft.

McLean County—Failure: Sinclair Prairie's McRay 1, 1-L-26, abnd 2964 ft.

Union County—Failure: Robbinson & Puckett's Dyer 1, 3-M-19, abnd 3019 ft.

NORTH LOUISIANA WILDCATS

Catahoula Parish—Failure: Stanolind's J. M. Jones 1, c se se 25-10n-8e, elev 58 ft, Wilcox 3286 ft, Midway 6015 ft, Chalk 6811-7052 ft, Tuscaloosa 8320 ft, Basal sand 9053-9180 ft, abnd 9234 ft.

Claiborne Parish—Failure: Big West Dr. Co.'s W. D. Allgood 1, 22-22n-5w, elev 184 ft, Midway 1418 ft, Nacatoch 2020 ft, base Annona 2590 ft, Blossom 2816-3180 ft, Massive Anhy. 3838-4016 ft, Travis Peak 5200 ft, Cotton Valley 7432 ft, Bodcaw 7878 ft, abnd 7914 ft in shale.

NORTH LOUISIANA OUTPOST

Concordia Parish—Lake St. John Extension: Carter Oil Co.'s George Murray 1, 31-9n-10e, 2½ mi s of prod, sg 8977-81, 8990-9055 ft, Massive 9081 ft, perf 140 shots 9075-9110 ft, flow 21.9 bbls in 2 hrs, 10/64-in, est 225 bbls per day, td in shale 9153 ft.

SOUTH LOUISIANA WILDCATS

Acadia Parish—Failure: Continental's Mrs. L. D. Thibodeaux 1, start nec sect 73 go 330 ne alg nwl th 330 se at ra to lcn in 73-7s-2e, Church Point area, abnd 11,008 ft.

Terrebonne Parish — Distillate Discovery: Union of Calif.'s Gaidry 1, 22-17s-17e, Houma area, perf 23 shots 10,290-98 ft, flow est 5 mln gas, 25 bbls cond, ¼-in, tp 3700 lbs, td 7767 ft.

SOUTH LOUISIANA NEW PAY TESTS

Iberia Parish—Avery Island Oil Discovery: Humble's Petit Anse Co. B-2, 23-13s-5e, 20-ac tr, perf 9415-30 ft, flow 634 bbls 33.6-gr, 256,000 gas, 11/64-in, td 10,537 ft.

St. Mary Parish—Belle Island Oil Discovery: Sun's Belle Island Corp. 7, 702 s 101 e of nwc 1-18s-10e, perf 88 shots 8248-70 ft in Miocene, flow 227 bbls 33.6-gr, 18-in, gor 482/1, td 8565 ft.

MISSISSIPPI WILDCATS

Greene County — Failure: Humble's Green County Sch. Land 1, 16-3n-7w, elev 252 ft, salt 2060 ft, abnd in salt 5523 ft.

Lauderdale County—Failure: Mid-Southern Dr. Corp.'s Bunnie Jean Clark 1, c nw sw 13-8n-17w, elev 258 ft, Eutaw 1560 ft, Tuscaloosa 1950 ft, Marine Tuscaloosa 2506 ft, Massive 2737 ft, L. Cret. 3060 ft, abnd 6233 ft.

Rankin County — Failure: Leonard Jones' Bullock 1, se se se 10-4n-2e, elev 423 ft, Wilcox 2215 ft, Midway 4349 ft, gas Rock 5014-5204 ft, Eutaw 6120 ft, abnd 6233 ft.

Smith County—Failure: Gulf's O. P. Foley 1, c se nw 8-10n-13e, elev 410 ft, Wilcox 1308 ft, lost circulation at 2255 ft, abnd 2269 ft.

MISSOURI WILDCATS

Garden County—Failure: Sinclair Prairie's Delatour 1, sw 33-19s-42w, abnd 5446 ft.

Hitchcock County — Failures: Texas Co.'s Redmer 1, sw 35-33w, abnd 4704 ft.

Texas Co.'s Franktanton 1, se nw nw 22-2n-35w, abnd 4667 ft.

NEW MEXICO WILDCATS

Eddy County—Failures: Southern Union Gas Co.'s Thompson-Federal 1, c sw sw 27-16s-28e, elev 3592 ft, red sand 1145 ft, lime 1909 ft, abnd 2929 ft.

Martin Yates et al's State-Yates & McKee 1, c sw se 13-19s-29e, elev 3334 ft, salt 384-1575 ft, abnd 2069 ft.

OKLAHOMA WILDCATS

Cotton County—Failure: J. M. Jackson's English 1, sw sw se 12-2s-11w, Walt 2301-38 ft, abnd 2604 ft.

Kiowa County—Discovery: Pure's Hinton 1, se nw nw 10-7n-17w, flow pot 1659 bbls oil, 37-gr Penn sd 1728-45 ft, td 1784 ft.

McIntosh County—Failure: W. B. Pine's Loar 1, ne se sw 12-10n-13e, Warner 1833-68 ft, abnd 1957 ft.

Oklahoma County—Failure: Stanolind's State 51, ne sw 36-11n-4w, Bartlesville 7466 ft, Chim Hill 7580 ft, abnd 7666 ft.

Osage County—Failure: Wilcox Oil's Osage 1, ne sw sw 10-22n-8e, abnd 2953 ft.

Stephens County — Discovery: Texas Co.'s Helm 1, sw se nw 21-2n-8w, flow pot 127 bbls, 34-gr Penn sd 4971-5018 ft, td 5018 ft.

WEST CENTRAL TEXAS WILDCATS

Johnson County—Failure: Lesco's H. B. Van Zandt 1, 330 ft fr se 900 ft fr nel 81-ac tr, or 10,200 ft fr swl 990 ft fr nwl of Urbano Mendoza sur, 2 mi sw Sand Flat, hard lime 4675 ft, abnd 5903 ft.

Jones County—Failures: Eltex's Smith 1, 1130 ft nsl 330 ft ewl nw sect 4, Blind Asylum Lands, elev 1691 ft, Dothan 1372 ft, Bend 4495 ft, Barnett 4740 ft, Mississippi 4808 ft, Ellenburger 4845 ft, abnd 4967 ft.

M. R. Hart et al's Putnam 1, 440 ft snl 330 ft wel of s 129 ac of sect 1, blk 3, C. & M. Sur, elev 1554 ft, Sedwick 1134 ft, Saddle Creek 1628 to 1647 ft, abnd 2025 ft.

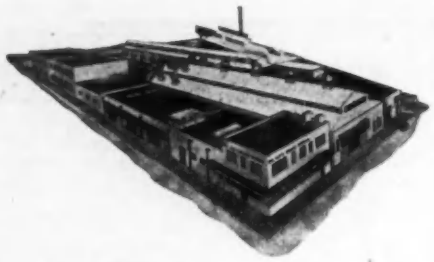
SOUTH CENTRAL TEXAS WILDCAT

Bastrop County—Failure: Federal Royalties Co.'s Andy Alexander 1, 1586 fr nel 660 fr nwl Jesse Billingsly sur, 124-ac lse, Taylor 850 ft, Hd. Taylor 1525 ft, abnd in Austin chalk 1841 ft.

SOUTHWEST TEXAS WILDCATS

Jim Hogg County—Failure: Delk Investment Co.'s E. L. Armstrong 1, 2310 fr el sur 107 330 n of sl of 80-ac lse & sur 107, 6 mi sw Hebbronville, abnd 3636 ft.

McMullen County—Failure: Texas Co.'s Car-



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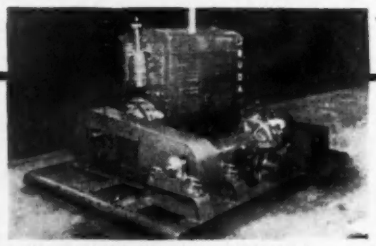

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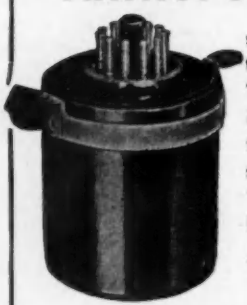

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rie Aguilare 1, 4290 fr nl 330 fr wl Nicholas Salinas sur 205, abnd 972 ft.

Starr County—Failures: W. D. Kennard's Anna M. Kelsey 1, 330 fr nl 990 fr el 200-ac lse pore 87, Roos 2086 ft, perf 2426-34 ft, sw, abnd 2646 ft.

Sun's M. S. de Flores et al 1, 467 fr e&nl tr 4 porc 40 138-ac lse, Juris de Reynosa Gr, 18 mi e Rio Grande City, abnd 5440 ft.

LOWER TEXAS GULF COAST WILDCATS

Cameron County — Failure: R. T. Wilson's Bentsen Bros. 1, 760 fr el lse and sh 12, 7600 fr nl 2490.9-ac lse, Esperitu Santa Gr, stuck drill pipe cut out to 8500 ft, jkd and abnd 10,120 ft.

Goliad County—Failure: Lewis Lawlor's J. G. Swickheimer 1, 467 fr s&wl nw/40-ac of blk 22, Cuadrilla Irrig. Co. sur, abnd 4860 ft.

Jim Wells County—Failure: H. H. Howell's L. E. Thompson 1, 467 fr wl 2500 fr sl blk 1, Roberts & White subdvn of McIntyre tr, and lse, abnd 6155 ft.

Karnes County—Failure: Lewis Lawlor's Gus A. Johnson 1, 46 fr s&wl 150-ac lse, Carlos Martinez gr 1, elev 410 ft, abnd 6270 ft.

Karnes County—Falls City Oil Discovery: Southern Minerals Corp.'s J. F. Bartosch 1, 467 fr nw&swl 171-ac lse, Louis Manchaca sur A-5, perf 4651-54½ ft, flow 59.6 bbls 45.6-gr oil, 6770 fresh wtr, td 4711 ft.

Live Oak County—Failure: Texas Co. and Henderson Coquat's Mrs. J. K. Cochran 1, 467 fr nw&swl lse and J. C. Wright sur, 467 se of sel E. Votaw sur A-469, e of Coquat fld, abnd 8409 ft.

Nueces County—Failure: Southern Minerals Corp.'s T. G. Winston 1, 467 fr sl 467 fr wl 220-ac lse, Roberts & White subdvn Petronilla Rch, abnd 7510 ft.

TEXAS GULF COAST WILDCATS

Brazoria County—Failures: General Crude's Belle H. Wisdom 4, 330 nw of ctr of blk 68 250 fr nel blk 68 840-ac tr, Abraham Darst sur, abnd 4042 ft.

Salt Dome Oil Corp.'s F. P. Law et al 1, 330 fr s&el lot 15 330 fr sl 990 fr wl sect 75 40-ac unit in HT&B sur A-299, abnd 8014 ft.

Ft. Bend County—Failures: J. M. McDade's William Brinkmeyer 1, 990 fr nwl 330 fr nel sect 77 157-ac lse, H&TC sur, abnd 6137 ft.

L. H. Wentz's J. R. Farmer 1, 330 fr nl 2310 fr el 528-ac lse and I&GN sur A-353, abnd in sw 8293 ft.

Westland Oil Corp.-Ralph Walton's 1500 fr el 557 fr nl 106-ac lse, across Highway 6 fr Arcola twnship, Manuel Escalera sur A-170, abnd 6290 ft.

TEXAS GULF COAST NEW PAY TESTS

Brazoria County—Danbury S. Flk Oil Discovery: Humble's Frank Schmidt et al 1, 1550 fr nwly/1 660 fr nely/1 150-ac lse and J. H. Brunner sur A-448, sand 7542 ft, perf 56 shots 7542-56 ft, flow 312 bbls 33.2-gr, ¾-in, td 9284 ft, pb 7625 ft.

Chambers County—N. Winnie Gas-Distillate Discovery: Sun's Rosa Arens 1, 330 fr n&wl blk 12, 60.61-ac lse, F. Valmore sur, perf 200 shots 9840-90 ft, flow 48 mln gas, small amt dist, 52.3-gr, ¾-in, si, td 10,075 ft.

Hardin County—Silsbee Oil Discovery: American Republics-Houston of Tex.'s Fee 10,5089.9 fr wl 250 fr sl G. W. Brooks Lge 7740-ac lse, elev 93 ft, sand 7432 ft, perf 24 shots 7455-60 ft, flow 468 bbls 43.8-gr, ¾-in, td 8905 ft.

NORTH TEXAS WILDCATS

Archer County—Failure: Bridwell Oil Co.'s Hancock 1, 2310 ft nsl 2050 ft ewl H&TC Ry. 2, blk 1, elev 926 ft, KMA lime 3605 ft, Bend 5221 ft, Ellenburger 5556 ft, abnd 5690 ft.

Clay County — Failures: Nixon Pet. Co.'s Lyons 1, blk 32, Bacon suddiv, abnd 1357 ft.

Texas Co.'s Hapgood 1, 660 ft out sec blk 84, Marion CSL sur, 1¾ mi se Hapgood pool, elev 974 ft, Simpson 6675 ft, Ellenburger 7003 ft, abnd 7202 ft.

Grayson County—Failure: Texas Co.'s Handy 1, 2000 ft nsl 5350 ft ewl of Samuel Stewart sur A-1069, abnd 3339 ft.

Wichita County—Failure: R. J. Rodocker et al's Westmoreland Swimming Pool 1, 450 ft wel 1100 ft snl sec 9, J. A. Scott sur A-305, abnd 300 ft.

Wilbarger County—Failure: Pennowa O&G Co.'s Waggoner Nat'l Bank 1, 450 ft ewl 150 ft snl blk 45, Waggoner Colony Lands, abnd 700 ft.

Young County—Failure: Fain-McGaha et al's Prideaux 1, 623 ft e 1341 ft n of nwc A. Williams sur A-2288, but in A. Rohus sur A-240, top Bend 4461 ft, abnd 4522 ft.

NORTH TEXAS NEW PAY TESTS

Clay County—West Ross Shallow Pay Discovery: Continental's Morris 1, 1529 ft snl 330 ft wel W. C. Davis sur, A-119, 1 mi s by e of Bend prod, elev 885 ft, Bend 5402 ft, Simpson 5652 ft, Ellenburger 5752 ft, pump 30 bbls 41-gr oil, 15 bbls wtr, 5000 gals acid via Strawn perf 4754-96 ft, td 5870 ft.

Young County — Fleming-Graham Field: Fleming Oil Co.-Kimbell Corp.'s Graham 4, 700 ft ewl 385 ft snl TE&L Co. sec 2912, 5,000,000 gas fr perf 490-95 ft, td 608 ft.

WYOMING WILDCAT

Fremont County—Failure: Ohio's State 1, ne nw nw 16-39n-91w, Lysite area, Sundance 0 330 ft, Tertiary 330-2500 ft, abnd 2500 ft.

United States Wildcat Starts

CALIFORNIA

Kern County: Richfield Oil Corp.'s Evans 1, nw sw 36-12-19, Grapevine oil, lcn.

Trico Oil & Gas Co.'s 24-2, nw ne 24-29-21, Cymric area, lcn.

J. I. Listel's Canfield 1, ne nw 12-30-28, Mountain View area, rur.

Richfield Oil Corp.'s Tejon Ranch 11-3, nw nw 3-10-19, Tejon area, rur.

Richfield Oil Corp.'s Gonyer Unit 1, nw ne 34-12-25, Temblor Range area, lcn.

Amerada's Seigfus 1, ne nw 22-29-29, Ant Hill area, lcn.

General Pet. Corp.'s Kernsumner 8-27, sw sw 27-30-28, Mountain View area, lcn.

Kern Oil Co.'s 28-34, sw sw 34-29-29, Race Track Hill area, lcn.

Los Angeles County: Continental's Bayly 1, se nw 29-1-9, San Jose Hills area, lcn.

Standard's Lewis Comm. 1, sw se 11-3-11, Coyote area, lcn.

ILLINOIS

Clay County: Nat'l Assoc. Pet.'s Modlin Est. 1, sw se se 35-3n-5e, lcn.

Edwards County: Central P. L. Co.'s Bunting 1, ne ne se 3-1s-14w, dr.

Jefferson County: K. M. Bayer's Telford 1, ne nw ne 4-1s-1e, dr.

Marion County: C. A. Baldwin's Listh 1, sw sw nw 28-3n-1e, lcn.

Washington County: Nat'l Assoc. Pet.'s Kuhn 1, sw se nw 28-1n-1w, dr.

Wayne County: Pure's Miller 1, se se nw 27-2n-7e, dr.

INDIANA

Jefferson County: Texas Co.'s Oexmann 1, sw se nw 3-1n-9w, dr.

KENTUCKY

Henderson County: Ashland & Basin's Gaines 1, 14-P-21, dr.

Union County: Cook & Locke's Smith Proctor 2, 4-P-20, dr.

SOUTH LOUISIANA

Terrebonne Parish: Sun's Realty Operators 1, 1500 n of sl 1000 e of wl 72-17s-16e, lcn 11,000-ft test.

MISSISSIPPI

Smith County: Gulf's King 1, c ne sw 8-10n-13w, mim.

NEW MEXICO

Eddy County: M. D. Bryant et al's Edgar Williamson 1, c nw nw 10-21s-31e, lcn 2750-ft Delaware test.

R. L. Harrison et al's Crockett-Spencer 1, nw ne ne 19-18s-26e, sp on 1600-ft San Andres test.

WEST CENTRAL TEXAS

Callahan County: C. B. Holmes et al's Mrs. I. N. Jackson 1, 1800 ft wel 150 ft snl T&NO Ry. Sec 1, lcn 850-ft cable test.

Shackelford County: O. P. Leonard et al's W. H. Green 1, 220 ft out swc ne¼ T&P Ry. 64, blk 12, lcn 1500-ft cable test.

SOUTHWEST TEXAS

Starr County: Coastal Refineries' Yndalecio Sanchez et al 1, 580 fr m/ely/wl 1120 fr m/sly/sl of sect 344 640-ac lse, elev 368 ft, lcn 5500-ft test.

George Echols' Starr Co. Cattle Co. A-1, 330 fr e&nl of 40-ac lse blk 16 porc 89, Jefferies subdvn, elev 330 ft, lcn 3100-ft test.

George H. Echols' Starr Co. Cattle Co. A-2, 660 fr n&el blk 38 660 fr wl porc 89, Jefferies subdvn, elev 330 ft, lcn 3100-ft test.

Webb County: Phillips' A. M. Bruni B-1, 3775 fr nel 1558 fr nwl of 2000-ac lse, J. V. Borrego Gr, 7500-ft Wilcox test, dr 2500 ft.

LOWER TEXAS COAST

Bee County: W. Earl Rowe's Nona Berry Davis 2, 2014 fr nwl 3960 fr swl 2000-ac lse Bee CSL sur 101, 4200-ft test, mi.

Fred W. Shield's J. M. Courtney 1, 770 sw of nel of right of way highway 16 1200 nw of sel 400-ac lse in blk 11 of Tulsita twnsite, George Kerr sur, lcn 7500-ft test.

Cameron County: Magnolia's Armendaiz B-1, 4950 fr s&wl 5591-ac lse, Ojo de Agua Gr, lcn 10,000-ft test.

Fayette County: Continental's E. A. Arnim Jr. et al A-1, 330 n&wl of 141.9-ac lse, A. Zumwalt sur, lcn 5500-ft test.

Hidalgo County: Cockrell & Hurlbut's Encino Corp. 1, 900 n 600 e of swc 1029-ac lse, porc 49, lcn 7500-ft test.

LaGloria Corp.'s South Mercedes Unit 1, 400 fr sl 660 fr el lot 6, 7000-ac lse, blk 38, Capisallo Dist. subdvn, lcn 9500-ft test.

Jackson County: Crown Central Pet. Corp.'s W. L. Moody, Jr. 1, 10,445.4 nw alg swl fr swc Richard Grimes sur A-113, 6622 sw at ra, elev 10 ft. lcn 8500-ft test.

Jim Wells County: Smith & Story's E. M. Sweeney 1, 330 fr s&el of nw¼ sur 87 160-ac lse, lcn 2800-ft test.

Nueces County: Kilgore Developers' W. S. Morgan 1, 467 fr swl 660 fr sel sect 303 112-ac lse, F. Z. Bishop subdvn of Brayton tr, lcn 8000-ft test.

Southern Minerals Corp.'s J. B. Butts 1, 467 fr sl 467 fr nwl and ra of blk 11, F. Z. Bishop subdvn, 471-ac lse, Petronilla Rch, lcn 7500-ft test.

Willacy County: Humble's W. S. Murphy 1, 660 fr n&wl lot 12 blk 75, 130.8-ac lse, San Juan de Carricitos Gr, Gulf Coast Irrigation Co. subdvn, lcn 10,000-ft test.

Magnolia's H. H. Dohe 1, 660 fr w&sl lot 6, sect 5, 40-ac lse, San Juan de Carricitos Gr, lcn 11,000-ft test.

TEXAS GULF COAST

Chambers County: Gulf's W. F. Mayes et al 1, 676 alg nl A. D. Mayes sur fr nwc, 3500 nw at ra in E. Derr sur A-74, dredging.

Sinclair Prairie's Modeste White 1, 2310 fr nl 330 fr el 259-ac tr and E. H. R. Willis sur A-365, lcn 8800-ft test.

Fayette County: Continental's E. A. Arnim, Jr., et al A-1, 330 fr n&wl 141.9-ac lse, A. Zumwalt sur, lcn 5500-ft test.

Wharton County: Jack Frazier's Otto Mathys 1, 1980 fr n&wl 291.8-ac Mathys lse, Henry Griffith sur, lcn.

EAST TEXAS

Houston County: Woodley Pet. Co.'s L. J. Murray 1, 1390 ft fr nel 1500 ft fr sel of 320-ac tr, John Durst sur, or 4000 ft n 17,350 ft w of swc of I. Lopez sur, 4 mi e by s of Commerce, mim for 8000-ft Woodbine test.

Leon County: H. J. Baker et al's Wells 1 (owdd), 660 ft fr m/s/swl 1857 ft fr sel of 1271-ac tr, John Scritchfield sur, 3 mi n of Normangee, deepen fr 2750 ft to 4000 ft.

NORTH TEXAS

Archer County: Rathke Oil Co.'s A. L. Harris 1, 982 ft snl 1065 ft ewl blk 93, J. W. Harris subdiv, lcn 1400-ft rotary test.

Childress County: C. A. Beasley et al's W. T. Lowe 1, e sw sw W&NW Ry. 417, blk H, 3½ mi s by e Kirkland, lcn 6000-ft rotary test.

Jack County: Lesco's S. V. Van Hooser 1, 2600 ft snl 330 ft ewl BS&F Ry. 1, A-79, lcn 5000-ft rotary test.

Young County: R. J. Watson et al's J. H. Choate 2, 300 ft wel 550 ft snl TE&L Co. sec 254, lcn 700-ft cable test.

WESTERN CANADA

Southern Alberta Plains — Princess: California-Standard Co.'s Princess-C.P.R. 76-22A, ne lsd 12 22-20-12w4th, ru.

Tribes Lease Sale

Sealed bids for oil and gas leases on 8804.29 acres of restricted lands of members of the Five Civilized Tribes will be received at the office of the superintendent at Muskogee, Oklahoma, up to 10:00 a.m., February 13. Counties in which leases are offered include Washington, Tulsa, Creek, McIntosh, Okfuskee, Hughes, Seminole, Sequoyah, Pittsburg, Pontotoc, Garvin, McClain, Grady, Stephens, Jefferson, Carter, Love.

WANTED TO BUY

■ WANTED REPAIRABLE 50 to 350 3½ inch Hydril Twin Pins to fit 3½ inch O.D. internal flush external upset drill pipe. Standard Oilfield Supply Company, Post Office Box 863, Phone P. 8271, L. D. 2195, Houston, Texas.

ADVERTISING RATES

TRADING POST SECTION

Regular classified advertisements for this special section, set in type this size without border, take flat-rate of 7 cents per word for the first insertion and 5 cents per word for each subsequent insertion of same copy. Display advertisements for this section, set in suitably larger type with ruled border, are $5.00 per inch for the first insertion and $4.00 per inch for subsequent insertions. Remittance must accompany copy which should be sent to:

Trading Post Section, The Oil Weekly
P. O. Box 2608 Houston 1, Texas

The OIL WEEKLY'S TRADING POST

USED EQUIPMENT FORUM

CLASSIFIED ADS . . . EQUIPMENT . . . SERVICES . . . PERSONNEL

FOR SALE

OIL AND GAS FIELD MAP
of
NORTH LOUISIANA, MISSISSIPPI, SOUTH ARKANSAS, EAST TEXAS AND WEST ALABAMA

Showing county, county seat, oil, gas and condensate fields with their names; discovery date, gravity of production and name, age and producing formation; also the size and ownership of all oil and gas trunk lines traversing this area. Hand colored, green, red, and yellow.

This map is published under copyright of Alec M. Crowell, petroleum consultant.

Scale 1:500,000-42x70-Paper $12.50; Linen $20.00. Scale 1"-11.5 Mi.-28x46-Linen $15.00.

COMMERCIAL DRAFTING SERVICE
P. O. Box 6277 Houston 6, Texas

FOR SALE
New and Reconditioned Iron & Steel
V A L V E S
Tested and Guaranteed
LARGE STOCK OF FITTINGS
APEX IRON & METAL CO.
2204 S. Laflin St. Chicago 8, Ill.

■ FOR SALE: 1 good second hand 60 HP, Direct Driven, Pattin Gas Engine Two Stage Compressor. All cylinders and bearings in good condition. Price $750. Address: P. O. Box 263, Independence, Kansas.

■ FOR SALE: Cardwell Draw Works Model KL-122. Complete with GAL-13J Waukesha Motor. Good condition. Utility & Industrial Supply Co., Jackson, Mich.

■ FOR SALE: Two Hydraulic Casing Pulling Machines, complete, with 5-3/16" to 15½" Slips. These machines can be seen in operation in the Ranger, Texas, District. P. Jensen, Ranger, Texas.

■ OIL AND GAS FIELD MAP: Texas District Four, showing county, fields, pipelines, a tabulation showing discovery dates, gravity, depth, and insert map showing Railroad Commission Districts. Lithographed, red, green, black, 17 x 22, Scale 1"—11 Miles. $1.00 folded; $1.25 rolled. ALSO $7.50 size, 24 x 36, 1:500,000 scale, Blue Line Linen, hand colored, yellow indicating condensate. Commercial Drafting Service, Box 6277, Houston 6, Texas.

■ FOR SALE: Used equipment at Bessemer, Pa. c/o Mr. J. H. Cracraft.
100 bbl. Steel Tanks
Franklin Valveless Diesel Engine
15, 20 and 25 HP Gas engines
Keystone Drilling Rig
Stems
Wrenches
Jars
5⅝ and 6¼ Bits
Lincoln Motor
Baker Core Barrell with wrenches, no bits
For further information and prices, write Buffalo-Phenix Corporation, 189 North St., Buffalo 1, New York.

■ FOR SALE: 3 Cameron Centrifugal Pumps, Type HST-6, 27,000 Barrel Capacity 800 lb. Pressure, 1800 rpm. Complete with bed plates for handling Petroleum Products. In good condition. Utility & Industrial Supply Co., Jackson, Michigan.

DRILL PIPE—CORING UNITS—ENGINES
10,000 Ft. 3½" Range 2 Hughes Acme Regular Tool Joints. 3 Coring Units equipped with 10 x 10 and 12 x 12 Steam Engines. Double Brake Bands, Floating Drums and Friction Clutches. Reel capacity 13,000 to 16,000 ft. of 9/16" line. Unitized on skids.
2 used 8¾" x 10½" Model 35-E Fairbanks-Morse full Diesel Drilling Engines in good condition. Merrill & Stone, 1034 Bankers Mortgage Building, Houston, Texas, Preston 7814.

NOTICES

■ Experienced Independent Operator desires to contact ample capital for drilling meritorious blocks. Details upon request. Box 111, c/o The Oil Weekly, Houston 1, Texas.

HELP WANTED

■ Chemical Engineer to engage in research and development work with major oil company along crude oil producing lines. Would include some field work. Recent gradates of interest. Position offers good future. Give full personal data, experience, and salary desired. Our employees know of this advertisement. All answers strictly confidential. Address: Box 30, c/o The Oil Weekly, Houston, Texas.

■ Research Geophysicist with several years experience preferably including field work and laboratory work, to engage in research geophysics with major oil company. In charge of work including evaluation of new ideas and experimental development of same. Position offers good future. Give full personal data, experience and salary desired. Our employees know of this advertisement. All answers strictly confidential. Address: Box 28, c/o The Oil Weekly, Houston, Texas.

■ Engineer or Physicist to engage in study of reservoir performance as related to physical properties with major oil company. Individual should have aptitude and background to enable the mastering of mathematical analysis of problems in flow of fluids. Position offers good future. Give full personal data, experience and salary desired. Our employees know of this advertisement. All answers strictly confidential. Address: Box 29, c/o The Oil Weekly, Houston, Texas.

■ Wanted by a consulting geophysical organization, Petroleum Engineers with Hayward Mudlogging experience or its equivalent. Immediate openings in Venezuela. Excellent opportunity for advancment to managerial positions throughout the world. Address: Box 36, c/o The Oil Weekly, Houston, Texas.

■ Manufacturer of Well Known Line of Drilling and Production Equipment Wants Field Salesman for West and North Central Texas and Southern Oklahoma. Trade alrealy established with producers and supply companies in that territory. Give full information as to age, experience, etc., and if draft exempt. Postwar position if you qualify. Address: Box 49, c/o The Oil Weekly, Houston, Texas.

SITUATION WANTED

Drilling Superintendent, now working, would like to contact an individual or company who has drilling rigs and would like to make a deal for some one to look after them for an interest. The reason for wanting to change is to go into business for myself. I have had sixteen years experience with drilling contractors and can furnish the very best of references. Address: Box 47, c/o The Oil Weekly, Houston, Texas.

SERVICES

GRAVITY METER SURVEYS
Contracting - Consulting
Kearny Robert J. W. Waggoner
SOUTHERN OIL EXPLORATION CO.
829 Hibernia Bank Building
New Orleans 12, Louisiana

■ The U. S. Geological Survey shows certain counties in Tennessee to be on the Appalachian oil field, and drilling and production have proved it. One well 276 feet deep, 57,000 barrels; one well 183 feet deep, 46,000 barrels; others almost as good. Ask me about suitable oil and gas structures in this field. N. M. Sauls, Geologist, Cookeville, Tenn.

LEASES, DRILLING ACREAGE, ETC.

■ So. Georgia, shallow sand leases for sale in blocks of 5-10-15-20-25 thousand acres. Write Owners, Box 364, Waycross, Georgia.

Yes, your income is large now—but what of the future? Build for the leaner years by going along with us in developing oil resources. Net cost to you most advantageous. Address: Box 48, c/o The Oil Weekly, Houston, Texas.

PAGES 3079 THRU 3098
IN THE 1943-44
COMPOSITE CATALOG

Why Use Tubing?
you can
PUMP MORE OIL
with
LAMTEX
Casing Pumps
For the whole story, illustrated, phone or write:
LAMTEX EQUIPMENT CORP.
2501 Virginia St. Fort Worth, Texas
Phone 2-6860

UNIBOLT
THE ONE BOLT COUPLING
NOT BIG
BUT STRONG!
Size: 2"; **Weight:** 12 lbs.; **Test Pressure:** 6000 lbs.; **Safety Factor** (at 6000 lbs.): 7.3 . . . **that's UNIBOLT!** (A ring joint flanged union of the same size and test pressure weighs 54 lbs. and has a safety factor of only 6.5.)
★
THORNHILL-CRAVER COMPANY
HOUSTON

Squeaks from the Bull Wheel

Improving the Home

"I hear you married a tattoed hula dancer."

"Yep, I just love moving pictures."

High Cost of Living

"For beating your wife I fine you $1.10."

"What's the ten cents for, Judge?"

"Amusement tax."

Two Can Play

"Barber, do you have another razor?"

"Sure. Why?"

"I'd like to defend myself."

Who Knows the Answer?

"Do you know what good clean fun is?"

"No, what good is it?"

Repeat—and Louder

"You sold me a car two weeks ago."

"Yes, sir."

"Tell me again all you said about it. I'm getting discouraged."

Proof Enough

"I hear she's a wild woman."

"That's just a vicious rumor. Anybody can pet her."

Coincidence

"You can't expect me to eat this stuff, waiter. Call the manager!"

"No use, sir. He won't eat it either."

Gimme Time, Toots

"Why aren't you in school, my little man?"

"Hell, lady, I'm only three!"

Room to Breathe

"I hear you bought a farm. How big is it?"

"I dunno for sure, but the former owners used to send out couples to milk the cows and their grandchildren would bring back the milk."

What Else?

"To what do you attribute your great age?"

"To the fact I was born so long ago."

Definitions

Conscience: Something that feels terrible when everything else feels swell.

Adult: A person who has stopped growing at both ends and started growing in the middle.

This Curious World

Fun is like life insurance—the older you get the more it costs.

A certain university has issued a report on the artificial propagation of a rabbit—which just about takes all the fun out of being a rabbit.

Trouble with most women is their trouble with most men.

The Lord compensates those who aren't important by making them feel important.

If wives knew what stenographers think of their husbands they wouldn't worry.

Protect the birds. The dove brings peace and the stork brings tax exemptions.

—The Pelican

"What do you mean you're a pharmacist's mate? You told me you were going to marry an oil man!"

Strange Family

"Where did I come from, Grandmother?"

"The stork brought you, dear."

"And did the stork bring Mother?"

"Yes, my child."

"And you, too, Grandmother?"

"Of course."

So the little girl wrote in her composition paper: "There hasn't been a natural birth in our family for three generations."

Sign of the Times

"Oh, Doctor, it was nice of you to come way out here just to see me."

"Well, I have a patient next door, so I thought I'd kill two birds with one stone."

HOSE—GASOLINE AND FUEL

5000 ft. New 1⅛" I.D. 2-1/16" O.D. Three Braid Fuel Oil and Gasoline Hose, non collapsible, all synthetic rubber, two static wire construction, lengths 20 to 24 ft. plain ends considerably under ceiling prices. Samples on request.

MARINE METAL & SUPPLY CO.
167 South Street New York 7, N. Y.

HOUSTON LABORATORIES
Analytical and Consulting Chemist
Podbielniak Gas Analysis
Oil Field Brines, Waters and Cores
Complete Evaluation of Crude Oils
Long Distance 267, Box 132, Houston, Tex.

THE FORT WORTH LABORATORIES
Analysis of oil field brines, cores, gas, oil and minerals. Field gas testing. R. H. Fash, Vice President; Long Distance 138
823½ Monroe Street, Fort Worth, Texas

William M. Barret, Inc.
Consulting Geophysicists
Specializing In Magnetic Surveys
Contracts accepted for domestic and foreign projects using the most improved instrumental and interpretative technique
GIDDENS-LANE BUILDING
SHREVEPORT, LOUISIANA

Notes for the Equipment Buyer and User

Power Winch and Saw

JACQUES POWER SAW COMPANY

Jaques Power Saw Company, Denison, Texas, has perfected two pieces of equipment which have a wide field of application in the oil industry, a tractor-mounted power saw, and a general utility tractor-mounted winch.

The power saw was used recently with marked success in clearing the right-of-way for the gas line of the Tennessee Gas and Transmission Company from Corpus Christi, Texas, to West Virginia.

This saw, Model C, is designed and built for cutting brush or trees. The cutting function is accomplished by a 48-inch circular saw blade driven by a hydraulic motor. The saw is designed and built for mounting on the Case SI Airborne or Case DI Rubber-tired tractor.

The saw receives its power from the tractor engine.

Versatile Implement

The saw mows, or cuts small trees and brush while the tractor is moving. The blade is fed into large trees while the tractor is stationary. The saw blade consists of a 48-inch circular saw blade, mounted on a carrier assembly, which is located on the right front of the tractor. The blade may be raised, lowered, fed forward or backward. A hydraulic ram lifts or lowers the blade. Another hydraulic ram feeds the blade.

Two hydraulic pumps which receive their power from the tractor engine, furnish the power to operate the parts of the saw.

Vegetation can be cut flush with the ground or at any height up to approximately two feet.

By clearing close to the ground, "grubbing" is often made unnecessary, as the stumps which remain are not of sufficient height to interfere with the use of the cleared area as a road, right-of-way, or runway.

The Model "J" Winch is designed for mounting on both wheel and crawler type tractor. Mounting brackets are furnished for both types.

The winch is powered from the rear power take-off shaft of the tractor through a chain drive to the winch transmission.

The winch has speeds from 18-inches per minute to 100 feet per minute. The drum line capacity of the winch in low gear is 80,000 pounds. A jaw clutch permits free spooling at any rate required.

Free Spooling Brake

The winch is also equipped with a free spooling brake which is used to govern the rate of free spooling. This brake, however, is not designed to hold a load on the drum line.

The winch is designed and built for general utility purposes. It can be used as a stump and tree puller in land clearing operations. It can be used for practically any job where a winch is required. Its high speed enables skidding operations to be performed efficiently, while the slow smooth power permits heavy duty pulling and eliminates damage from snatching.

The horsepower of the tractor on which the winch is mounted has little bearing on its capacities as the gear ratios are such that very little power is required for even the heaviest pull. All strain from heavy pulls is transferred from the winch to the anchor line. Therefore it is only necessary that the tractor have sufficient size to support the weight of the winch unit.

Jacques General Utility Winch

Jacques Power Saw

ORBIT VALVES

MASTER VALVES
with
UNEQUAL FLANGES

The **ORBIT GEAR OPERATED MASTER VALVE** makes your Christmas Tree more compact by eliminating the use of an adapter flange — also eliminating chances for additional gasket leaks. The Unequal Flanges are cast integral with the body of the Valve.

Orbit Gear Operated Master Valve

This valve can be furnished thru all fabricators of Xmas Trees or thru any of your local supply stores at a price comparable to that of other leading valves. The Orbit Valve requires no lubrication to effect a seal.

See 1944 Composite Catalog

SERVICE REPRESENTATIVES

R. G. "Bob" Cole, Houston, Texas
Phone Fairfax 0057
Warehouse 1121 Rothwell, Sect. 15
Houston

Earl F. Warren, Phone 919-W,
Alice, Texas

Rex E. Galloup, Phone 6436,
Lubbock, Texas

ORBIT VALVE COMPANY
TULSA, OKLAHOMA

Manager of Allis-Chalmers New York Office Is Named

Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin, has named Archibald J. Cooper manager of the New York district office. He has been assistant manager, and succeeds A. F. Rolf, who will devote his time to his duties as assistant secretary of the company. Cooper has been in the New York office since 1920.

Thermoid to Buy Grizzly Facilities at Los Angeles

Thermoid Company, Trenton, New Jersey, plans to purchase Grizzly Manufacturing Company's plant and equipment at Los Angeles, California.

No change in Grizzly products is contemplated. Walter Smith, vice president and general manager of Grizzly Manufacturing Company, will continue in his present capacity for the time being.

Thew Shovel Company Gets Army-Navy "E" Award

Thew Shovel Company, Lorain, Ohio, has been presented the Army-Navy "E" production award for outstanding production of war equipment. The presentation was made at the Lorain plant January 12 by Lieutenant Colonel N. J. Riebe, United States Army Engineers. F. A. Smyth, president of the company, accepted the flag on behalf of the company. Formal acceptance of the E pins on behalf of employes was by Austin Greuser.

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Two Executives are Named By Morse Chain Company

W. W. Bertram

R. J. Howison

Morse Chain Company, Division of the Borg-Warner Corporation, with plants at Ithaca, New York, and Detroit, Michigan, announces the election of Walter W. Bertram as vice president in charge of sales, and the appointment of Robert J. Howison as sales manager.

Bertram formerly was sales manager and Howison was in charge of automotive sales.

Pacific Car and Foundry Buys Motor Truck Firm

Pacific Car and Foundry Company, Seattle and Renton, Washington, has acquired controlling interest in the Kenworth Motor Truck Corporation, Seattle.

New officers of the Kenworth Motor Truck Corporation include: Paul Pigott, president; Ferdinand Schmitz, vice president; John Holmstrom, vice president and general manager; Vernon Smith, vice president; John Cannon, secretary-treasurer (on leave); K. T. Worthington, assistant secretary-treasurer; and F. D. Pitts, assistant secretary-treasurer.

No changes in the operation of the acquired company are planned for the duration, since both organizations will devote their efforts exclusively to fulfilling war orders.

☆

J. A. COMBS, formerly of Bristow, Oklahoma, now residing in Santa Fe; New Mexico, and others, have organized the Tulsa Oil and Mineral Company.

L. W. Little Drilling Co.

Shallow Production and Exploration Drilling
Oil Field Water Wells
Large Diameter Gravel Wall Water Wells
Fast, Portable Equipment

4740 Livingston Ave.
Dallas 9, Texas

Phones: L-2948
Yards W 7-8662

Standco
NO-SMOKE

STANDCO BRAKE LINING
for the easiest brake known. It "feeds off" evenly. Standco never scores brake rims. See page 2808 Composite Catalog.

Standco Brake Lining Co.
HOUSTON